



WinSTAR

GIS Administration Guide

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PART 1 : INTRODUCTION

CHAPTER 1: BEFORE STARTING

1.1 WELCOME

Welcome to the world of WinSTAR and thank you for the confidence you place in STAR INFORMATIC.

Whether you work in an engineering office, a local authority or as building manager,... WinSTAR will enable you to **explore, use and query your STAR information systems and plan libraries or other standard graphic files.**

User-friendly, ergonomic, easy and interoperable are WinSTAR's most important adjectives. We invite you to discover it throughout this **WinSTAR Administration Guide.**

Welcome to all of you and enjoy working with these applications!

1.2 ABOUT THIS GUIDE

It was specifically written for WinSTAR (and its GIS data) administrators.

This document is divided into 3 parts :

PART 1 : INTRODUCTION

PART 2 : DATA ORGANIZATION

PART 3: CLEANING AND ADMINISTRATION

This document contains **hyperlinks and automatic page references** (table of contents, Cf,...) usually underlined for highlight.

You will easily notice that this system is quite well optimized to be used in IT mode.

!!! Warning, this guide only explains a few WinSTAR commands and administration functionalities. It contains no information on the installation and use of the software.

PART 2: DATA ORGANIZATION

CHAPTER 2: DATA HIERARCHY

2.1 GENERAL CONCEPTS

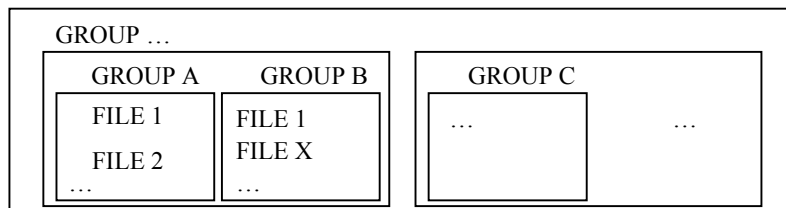
All software products STAR ARCHI AX, STAR TOPO TX, STAR CARTO CX (now called cartoWinSTAR) and STAR 2D present a specific database structure.

The information is saved in a series of files placed in a hierarchical structure.

Several reasons may explain this situation :

► *Explanation 1 :*

All data files are in groups of files which are all in super-groups, etc.



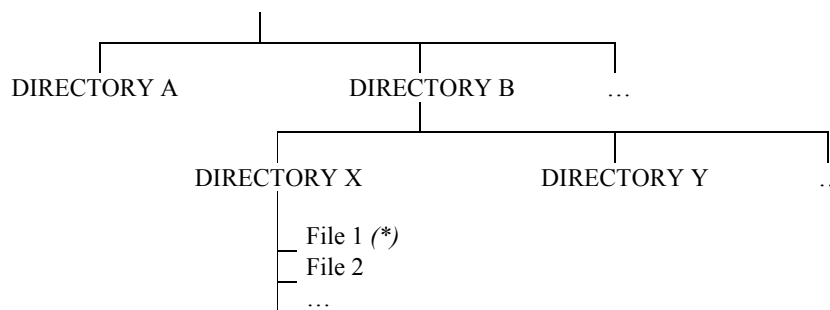
► *Explanation 2 :*

Data files are all in folders, folders are in drawers, drawers are in cupboards which are in rooms, etc.

► *Explanation 3 :*

Data files are all in directories, several directories are gathered in a super-directory, etc.

This explanation corresponds in fact to the traditional structure of the information saved on the drive of the working station.



(*) : *This information is specified as: B/X/1*

In fact, in such a hierarchy, there are several types of information names:

Fixed directory name	This type of directory has always the same name. This name usually concerns a specific category of information, structured in several files or other directories. <i>Examples : the directory legend, projects, ...</i>
Variable directory name	The name of this type of directory is given by the user.

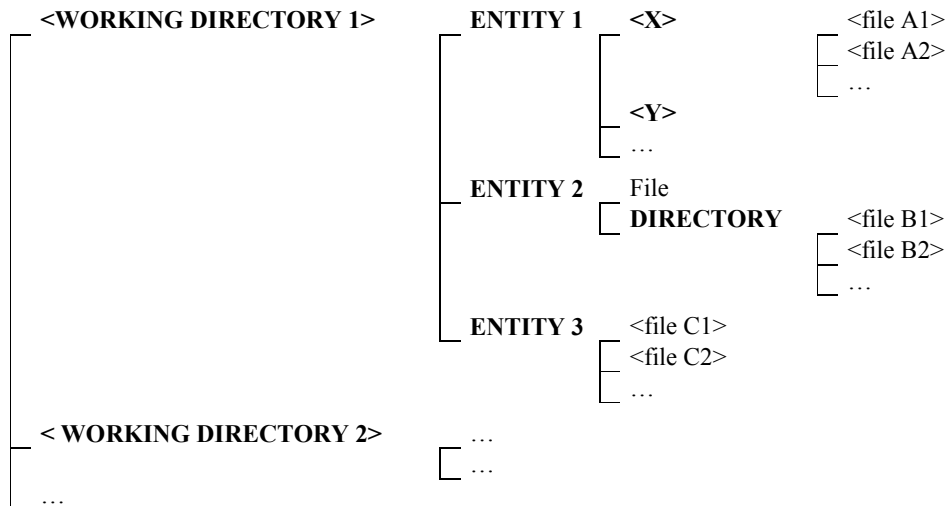
	It concerns, for instance, a specific project, a map,...
	Such a directory usually presents a series of files also with variable names.
Fixed file name	Some files only exist in one sole copy and always have the same name. These are usually option files created and managed by the software's applications. These files must be, however, regularly archived. <i>Example : the file containing the display options of long-section plots, ...</i>
Variable file name	Some directories in the hierarchy may have an infinite number of files. The names of these files are defined by the user. <i>Example : the X MAP contains an Y LAYER. This Y layer is a file.</i>

When using any software, the user must know precisely the structure of his/her data hierarchy to best organize file management operations.

Conventions (for logical schemas) :

Fixed directory name	NAME
Variable directory name	<NAME>
Fixed file name	Name
Variable file name	<name>

Using these conventions, it would be possible to obtain a completely imaginary file structure as the graph here under:



2.1.1 Physical hierarchy and logical hierarchy

This data structuring organized into a hierarchy obliges the software user to understand the name and the place of all the files s/he creates.

The next pages describe the **real structure of the information** – also called ‘**physical hierarchy**’ – of each STAR product.

This structure seems, however, quite complex and, even sometimes, difficult to understand. That is why it is **easier** for the user to remember a **simplified structure called ‘logical hierarchy’**.

The main difference between the 2 structures comes from the artificial reunion of several directories into one in order to ease management operations. This trick is also justified by the fact that several directories have to be archived in one sole operation.

- **Physical hierarchy:**
 - § Real hierarchy
 - § Hard to use
 - § Too big splitting

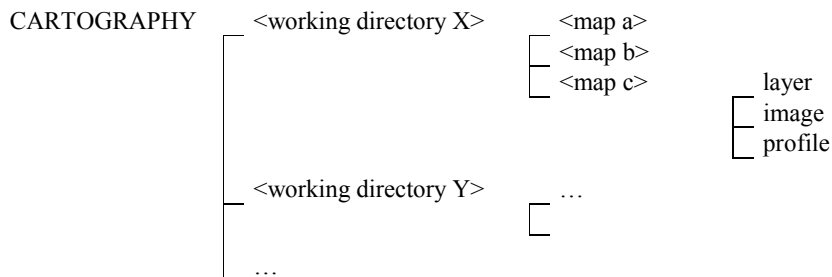
- ▶ **Logical hierarchy:**
 - § Imaginary hierarchy
 - § More simple presentation
 - § Several directories together

2.1.2 Directories

So, all the data categories managed by the STAR software are placed into file hierarchies specific to each product.

Each hierarchy may contain directories created by the user on his/her station.

These types of directories are placed at the top of the hierarchy. Their names are given by the user and the active 'working directory' is specified by the 'option management' application (session).



2.2 HIERARCHY OF STAR APPLICATIONS

The most important classes of information managed by all STAR applications are at the first level of the logical hierarchy.

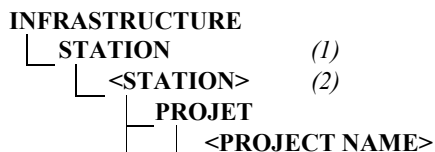
- INFRASTRUCTURE on this page
- CARTOGRAPHY on page 12
- LEGEND on page 13
- TOPOGRAPHY on page 14
- ARCHITECTURE on page 15
- PLAN PRODUCTION on page 17
- STAR CAD on page 19
- 2D on page 20
- OBJECT MANAGEMENT below
- IMAGE RENDERING on page 22
- COMMON FILES on page 22

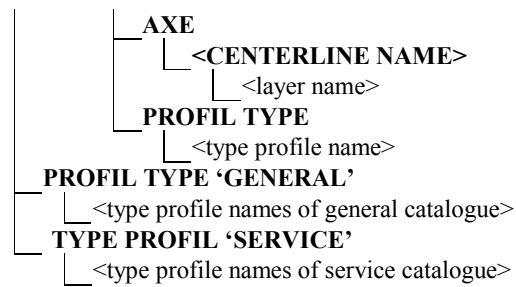
The following paragraphs explain in detail all the branches of this level.

2.3 INFRASTRUCTURE

The information of infrastructure type presents **all the information on the ROADS and RAILWAY RX applications** developed by STAR INFORMATIC.

2.3.1 Logical hierarchy

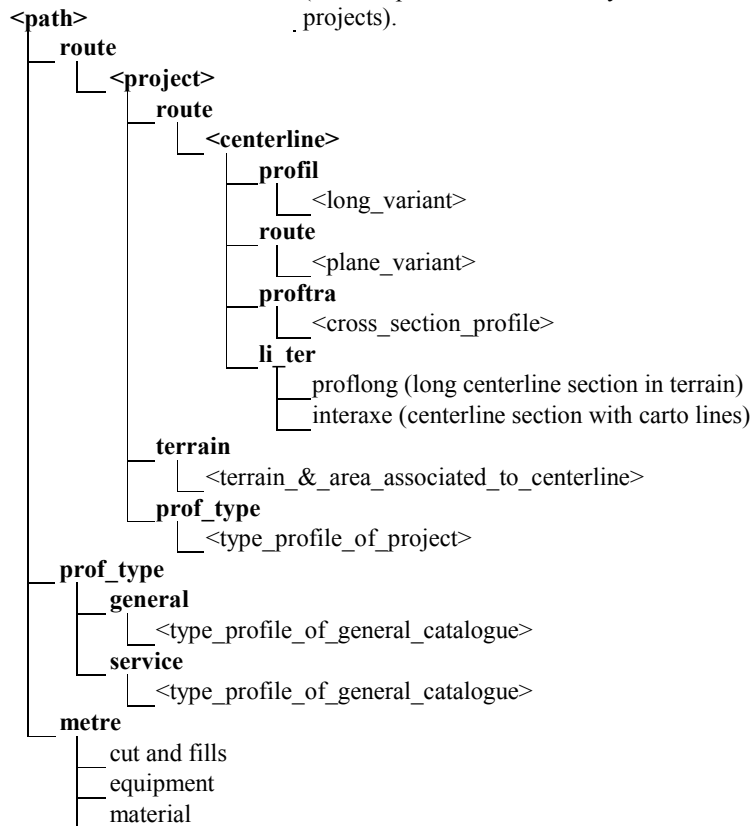




(1) and (2): These 2 levels of the logical hierarchy are present only on a workstation of a local network.

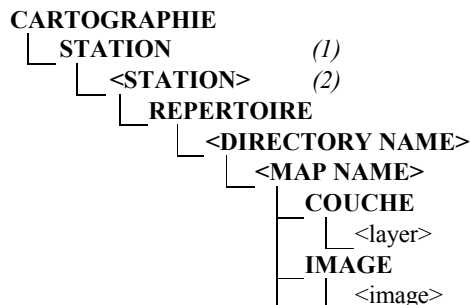
2.3.2 Physical hierarchy

(where <path> is the directory chosen in the options of the session to store road projects).



2.4 CARTOGRAPHY

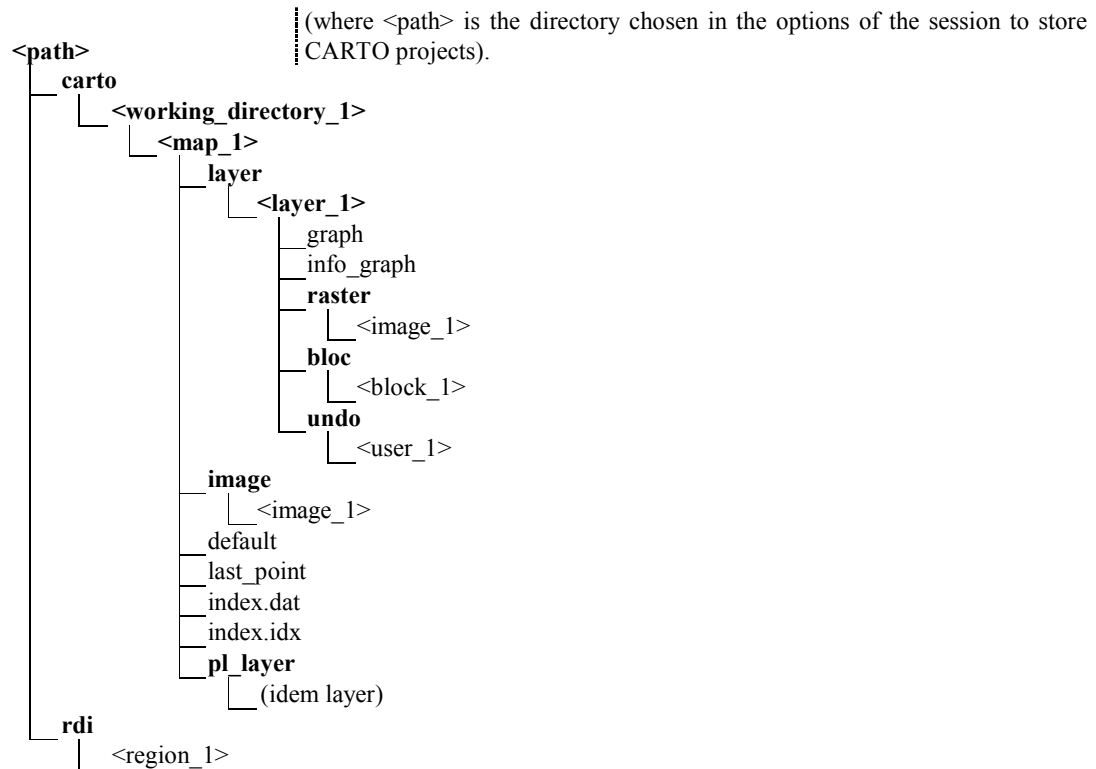
2.4.1 Logical hierarchy





(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

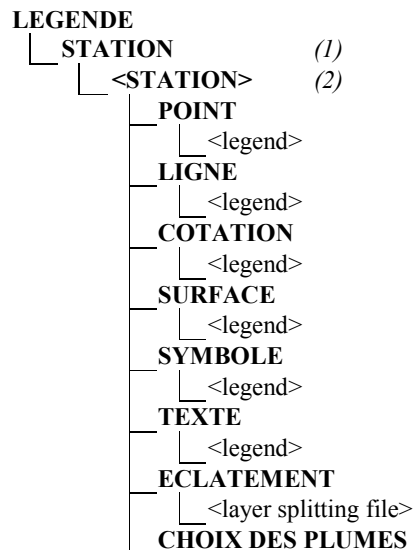
2.4.2 Physical hierarchy



2.5 LEGEND

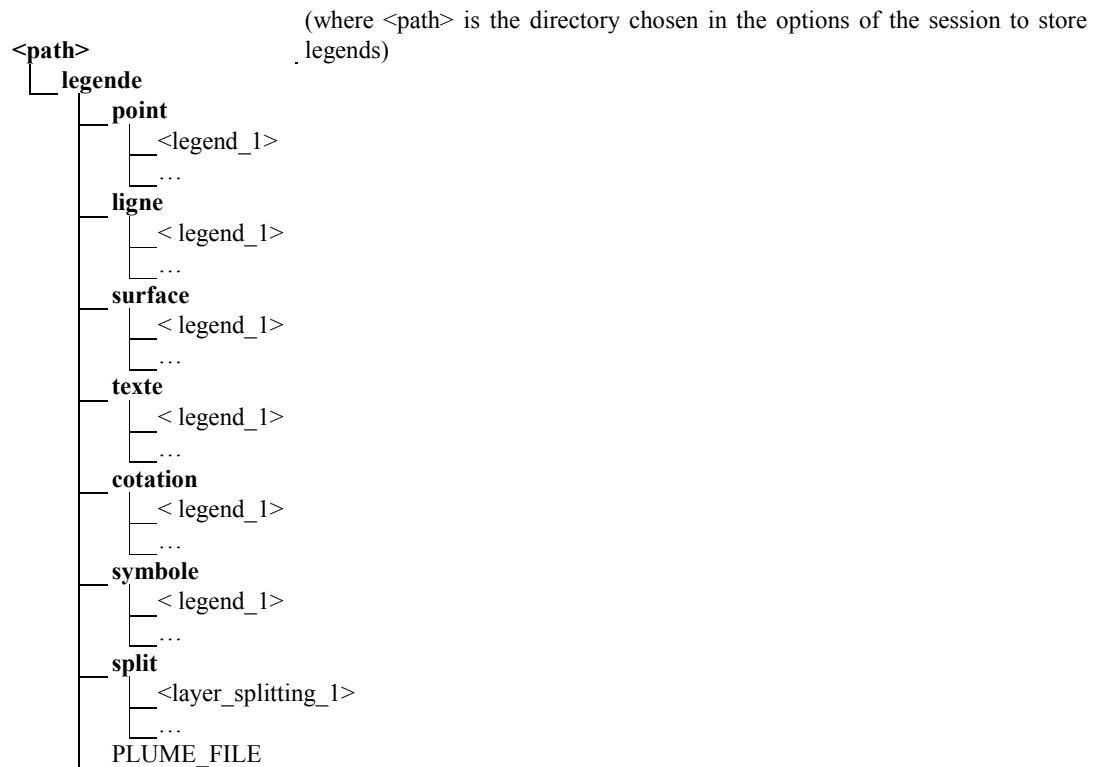
This information is used by all STAR applications.

2.5.1 Logical hierarchy



(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

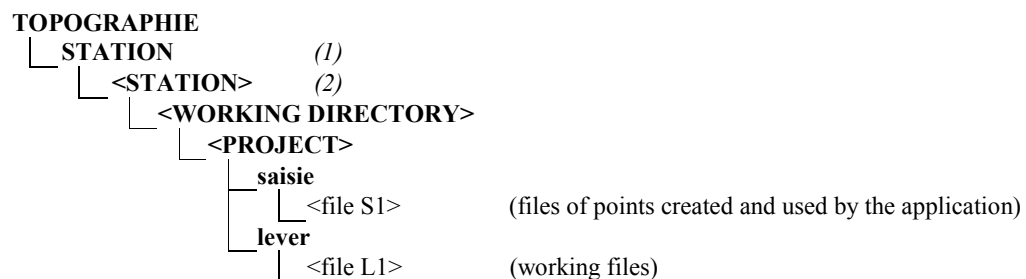
2.5.2 Physical hierarchy



2.6 TOPOGRAPHY

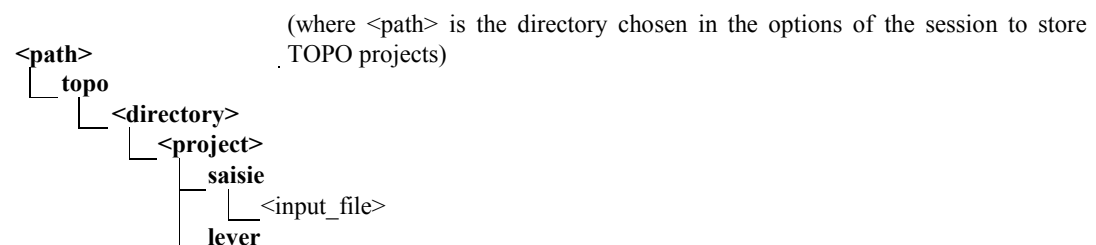
Due to the simplicity of the data structures managed by STAR TOPO TX, the physical and logical hierarchies are very similar. In fact, directory names are simply more explicit in the logical hierarchy.

2.6.1 Logical hierarchy



(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.6.2 Physical hierarchy



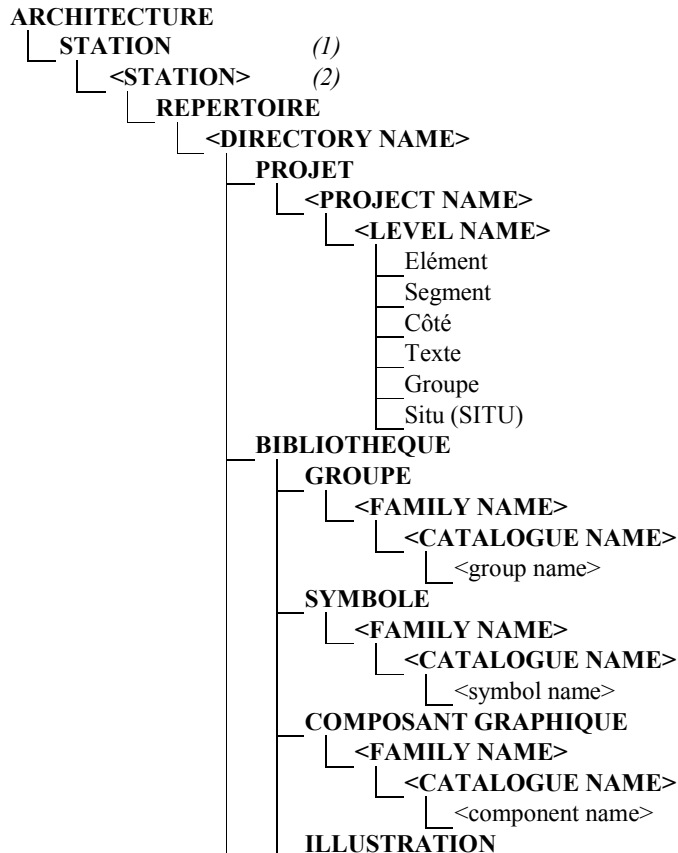
<file_lev.e.a_1>	*
<file_lev.e.a_2>	*
<file_lev.e.adm>	*
<file_lev.e.crc>	+
<file_lev.e.dec>	+
<file_lev.e.dis>	*
<file_lev.e.dnv>	*
<file_lev.e.dto>	*
<file_lev.e.gif>	+
<file_lev.e.lis>	*
<file_lev.e.rct>	*
<file_lev.e.red>	+
<file_lev.e.ref>	+
<file_lev.e.sta>	+
<file_lev.e.tap>	*
<file_lev.e.wld>	+
<file_lev.e.xac>	+
<file_lev.e.xap>	+
<file_lev.e.xpt>	+
<file_lev.e.xyz>	+

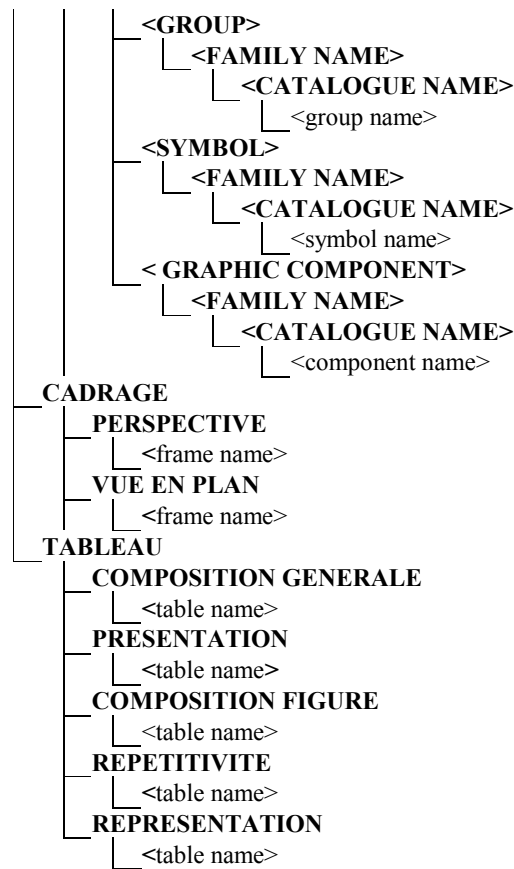
* : log files
+ : data files

2.7 ARCHITECTURE

The organization of the information on architecture is slightly more complex as it also highlights the distribution of this information among all the network's stations. Finally, the physical hierarchy is quite different from the logical hierarchy.

2.7.1 Logical hierarchy

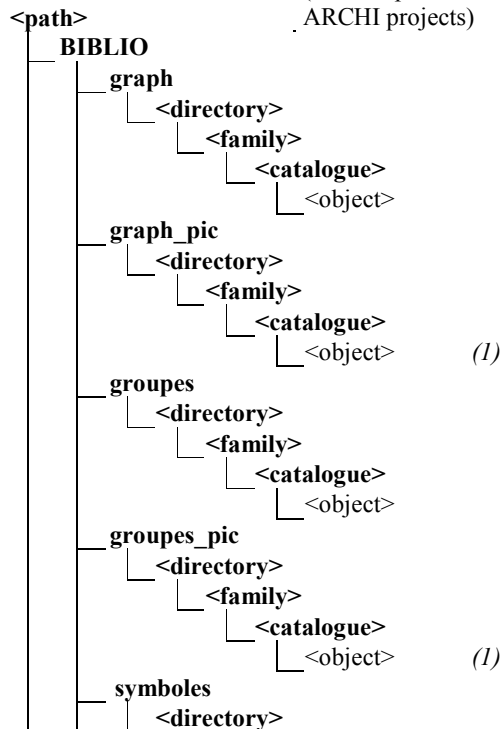


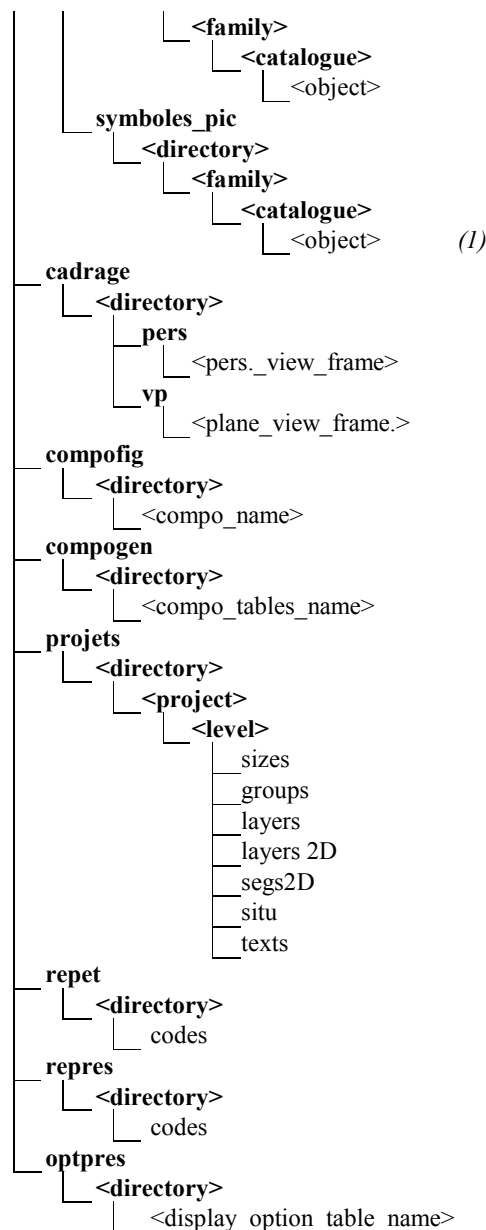


(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.7.2 Physical hierarchy

(where <path> is the directory chosen in the options of the session to store ARCHI projects)





(1) : The 'graph_pic', 'groupes_pic' and 'symbole_pic' directories contain the illustrations of the library.

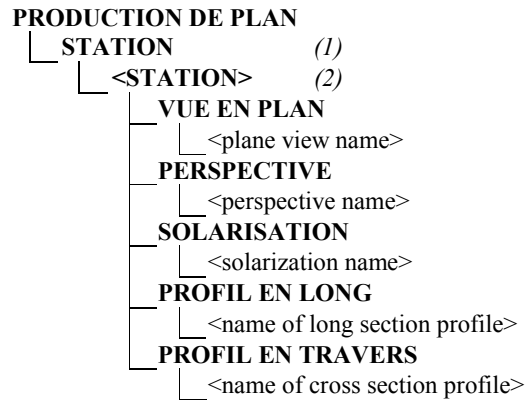
2.8 PLAN PRODUCTION

All STAR applications have in common the principle of **'figure computing'** which **transforms a project or a map into a 2D drawing which can be plotted**. Figure computing goes along with a series of selections of **option tables, codes, compositions, frames, etc.** This information is hard to find if the figure has to be computed again after some time.

The goal of this logical hierarchy is to collect this information per figure in order to archive it as a group.

- i** The list presents only the computing of figures created with the 'Figure computing with terrain' application.
- i** Figure computing is not in any specific STAR directory.

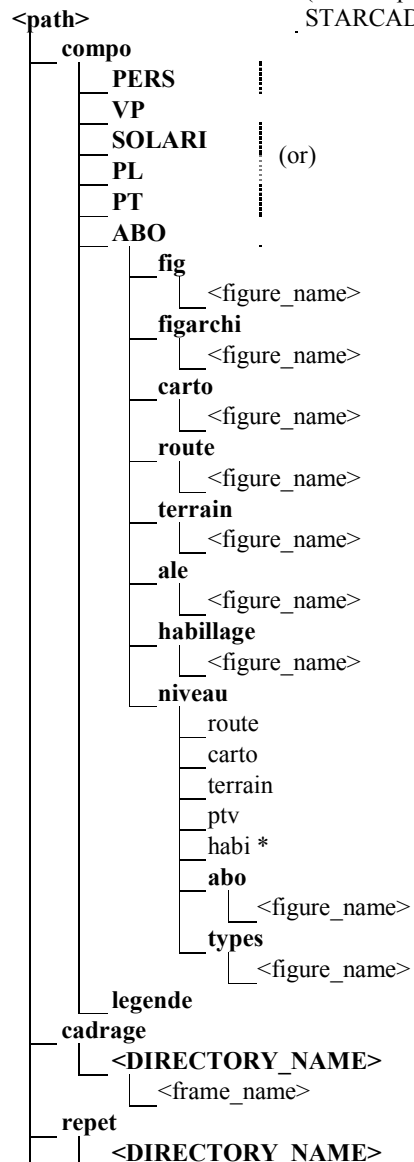
2.8.1 Logical hierarchy

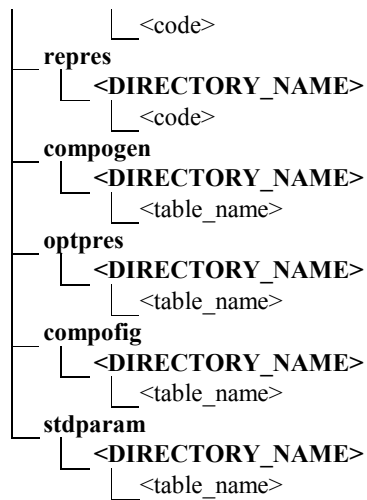


(1) and (2): These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.8.2 Physical hierarchy

(where <path> is the directory chosen in the options of the session to store STARCAD projects and other files used in plan production)



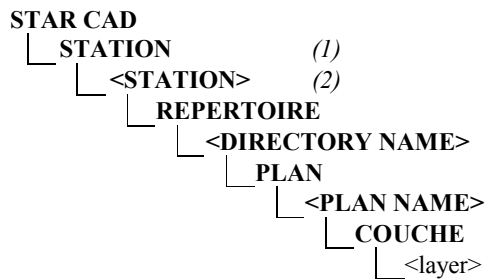


2.9 STARCAD

This **information** is the one **accessible via STAR CAD**.

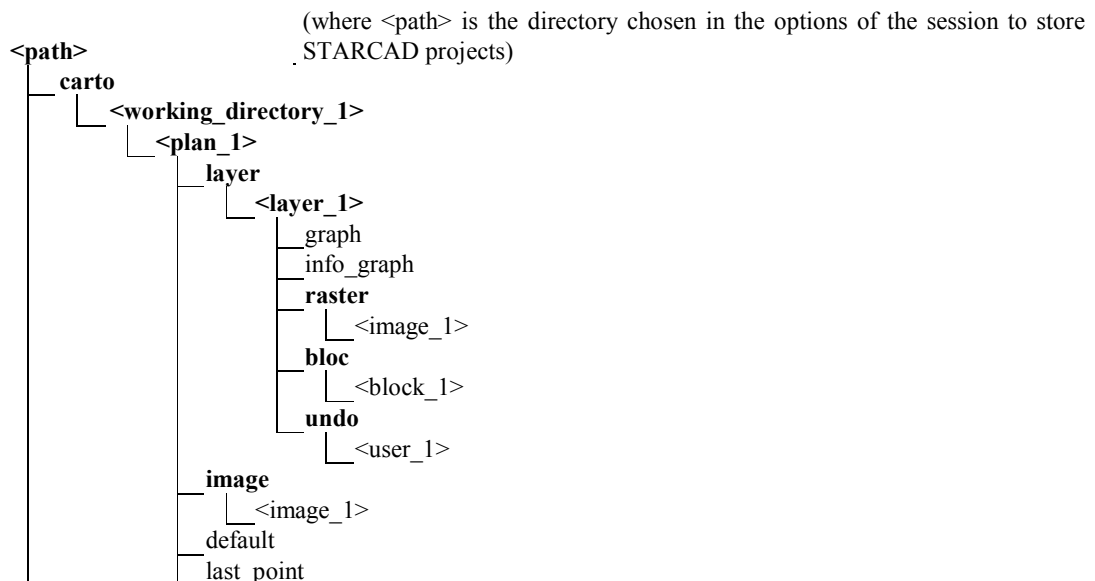
It is either **created by STAR CAD** itself, generated by the **'Figure computing' application** of any STAR product or is the **result of a DXF transfer**.

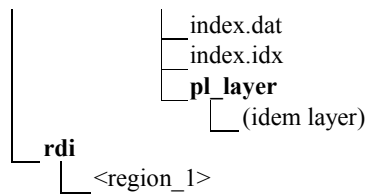
2.9.1 Logical hierarchy



(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.9.2 Physical hierarchy



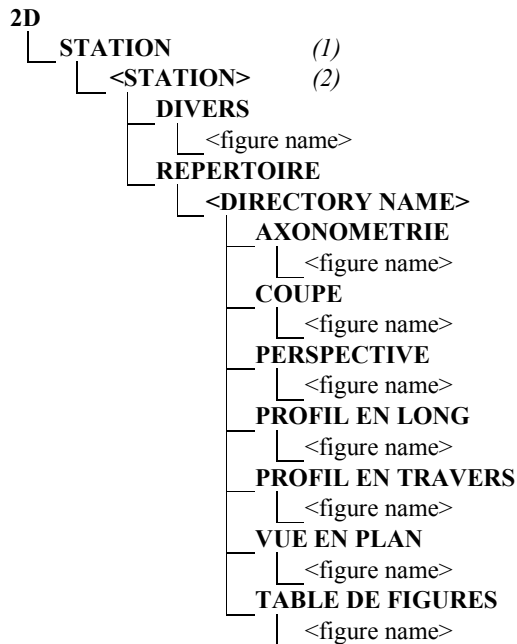


2.10 2D

This **information** is the one **accessible via STAR 2D**.

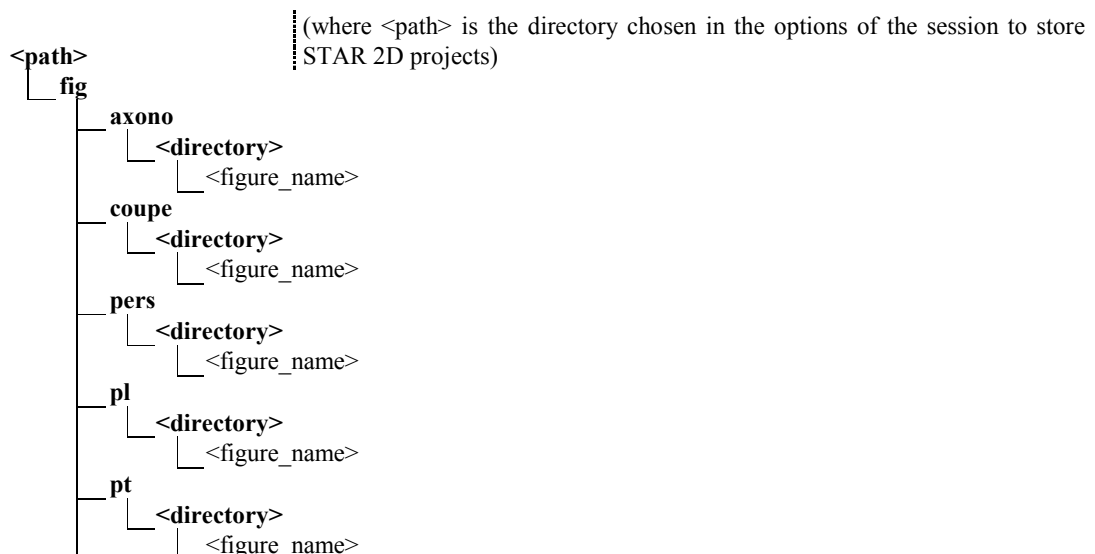
It is either **created by STAR 2D** itself, generated by the '**Figure computing**' application of any STAR product, or is the **result of a DXF, IGES, BASIC or CARTO transfer**.

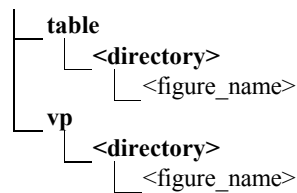
2.10.1 Logical hierarchy



(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.10.2 Physical hierarchy

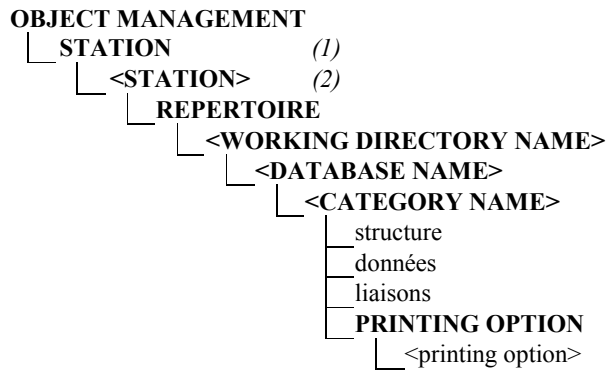




2.11 OBJECT MANAGEMENT

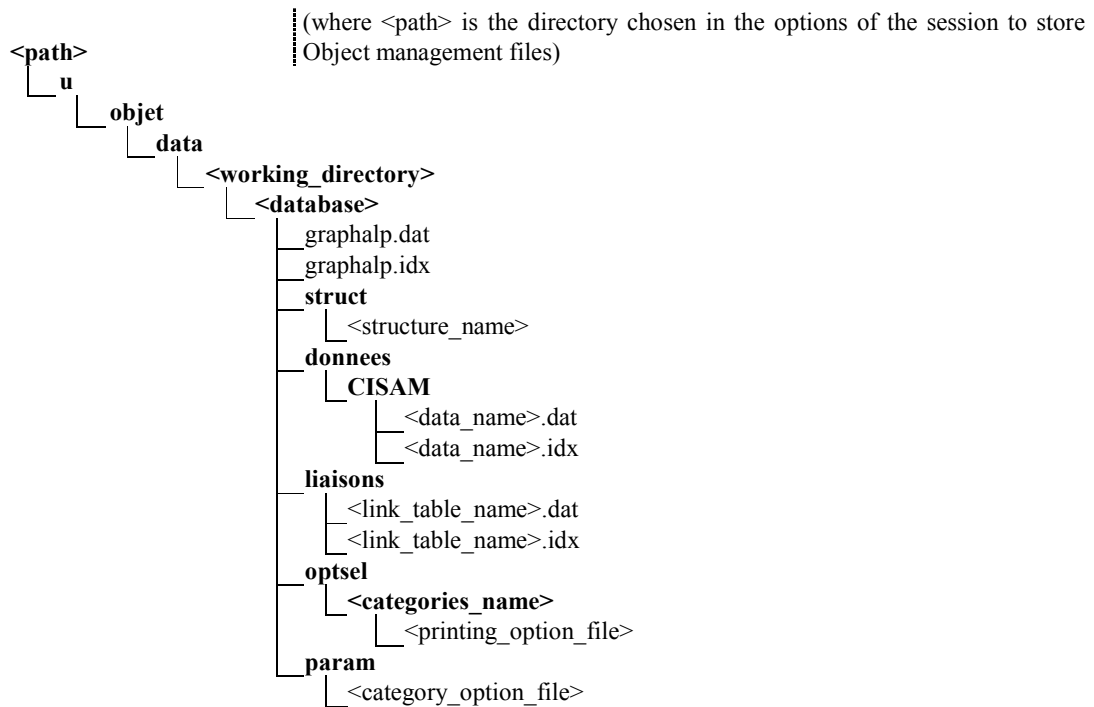
The information related to Object management concerns **the alphanumeric data that can be associated to elements from the architecture and cartography databases.**

2.11.1 Logical hierarchy



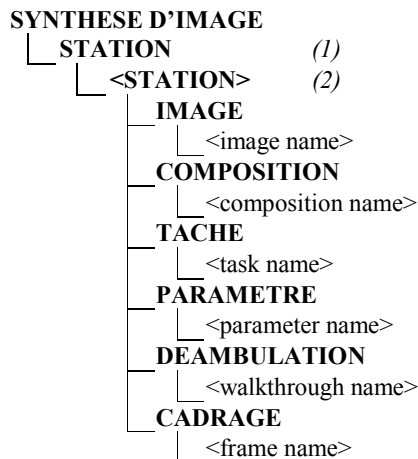
(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.11.2 Physical hierarchy



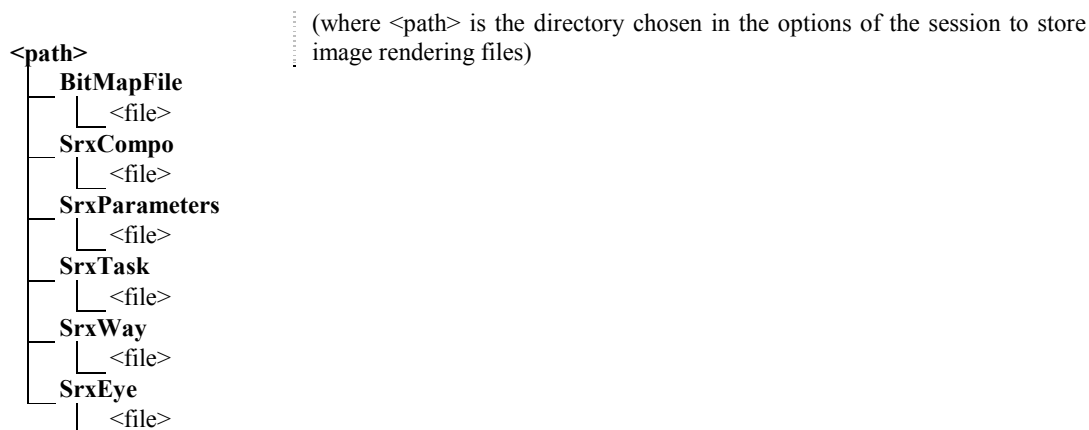
2.12 IMAGE RENDERING

2.12.1 Logical hierarchy



(1) and (2) : These 2 levels of the logical hierarchy are present only on a workstation of a local network.

2.12.2 Physical hierarchy



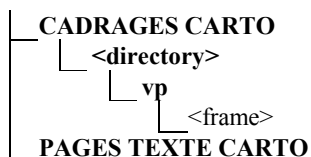
2.13 COMMON FILES

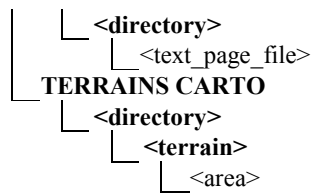
The 'Common files' section presents in a logical way categories of files that have common points or that are used in common by all STAR software products.

For instance, frames do exist in cartography as well as in architecture but they are physically stored in different places.

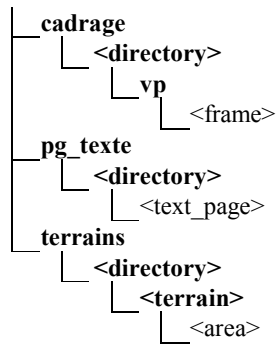
By gathering them, the user may have a general view of all frames, all alpha files,... which belong to different software products.

2.13.1 Logical hierarchy





2.13.2 Physical hierarchy



- i** The frames created in STAR ARCHI AX ‘Design’ application do not appear in the list of these common frames but in the ‘ARCHITECTURE’ hierarchy.
- i** The information of ‘Terrain’ type gathers the digital terrain models managed by CartoWinSTAR, TopoWinSTAR and ArchiWinSTAR.
- i** The text pages are the ones used in cartography, road infrastructures, architecture and 2D.

CHAPTER 3: IN TREE STRUCTURE

3.1 INTRODUCTION

This chapter presents a few directories of the STAR tree structure.

3.2 LIST OF STAR DIRECTORIES

Legend of the table here under:

- § Data : lists all the files needed for using the database
- § Customization : deals with STAR software customization
- § Software : associated files or executables
- § Temporary : directories with temporary files
- § How long used : - Use : files modified when STAR software used
 - Version : files replaced with each version

Note on directories:

- § \$TMPDIR is the temporary data directory defined in the station or in the PC
- § \$USER_DIRECTORY is the setup directory of the software
- § \$HOME corresponds to \$USER_DIRECTORY/star_ux
- § \$BASE_NAME is the directory chosen in the options of the session

Directory		Data	Customization	Software	Temporary	How long used	Comment
\$TMPDIR					X	Use	Error files linked to software use (*.log), temporary directory for database processing ...
\$USER_DIRECTORY	server		X			Use	Files linked to Cxserver customization
\$USER_DIRECTORY	spooler			X	X	Use	Setting files of spooler and temporary files linked to it
\$HOME		*.dsp	X			Use	Table of parameters of STAR CARTO graphic editor, STAR CAD after customization by users
\$HOME		.UX_profile*	X			Version	Definition of working context (windows' size, color, ...)
\$HOME		.Xdefaults*	X			Version	Definition of working context (windows' size, color,...) operating system settings
\$HOME		Alphabets		X		Version	Contains STAR fonts
\$HOME		AMAP	X			Use	Needed for AMAP use
\$BASE_NAME		biblio		X		Use	Component of AX_LIB library
\$HOME	star_ux	cadrage	X			Use	Frames used in figure computing
\$HOME		carto		X		Use	Used for map storage
\$HOME		cartoTk	X	X		Version	WinSTAR's TCL library file
\$HOME		classe		X		Use	Definition file of thematic classes
\$HOME		commondir	X	X		Use	Contains the definition of the

Directory		Data	Customization	Software	Temporary	How long used	Comment
							sessions' options and the file showing the active session.
\$HOME		compo	X			Use	Contains composition definition
\$HOME		conf		X		Use	Description file of CX legend plot
\$HOME		coord		X		Version	Files used for coordinate transformation
\$HOME		dict		X		Version	Dictionary used by STAR software
\$HOME		digi		X		Version	Digitizer's customization file
\$BASE_NAME		fig	X			Use	Stores Online computed figures
\$BASE_NAME		fseldir	X			Use	List of generated selection files
\$HOME		GraphDef		X	X	Use	Definition of line types
\$USER_DIRECTORY	winstar	help			X	Version	Help file
\$HOME		hprtl	X			Use	Contains link files between figures and scanned images
\$BASE_NAME		legende	X			Use	Legend and color definition files
\$HOME		pal_dyn			X	Version	Definition of dynamic toolbars of graphic editors
\$HOME		preference	X			Version	Customization file used, for instance, for antialiasing contour lines
\$BASE_NAME		projets	X			Use	Related to ARCHI projects
\$HOME		rdi	X			Use	Files containing the regions of interest used in processing of raster images
\$HOME		repet		X		Use	Contains repeatability codes for ARCHI
\$HOME		repres		X		Use	Contains representation codes for ARCHI
\$BASE_NAME		route	X			Use	Road projects
\$USER_DIRECTORY	winstar	s			X	Version	Procedures, scripts ...
\$USER_DIRECTORY	winstar	s_unix			X	Version	Procedures, scripts ... to be adapted for Windows
\$USER_DIRECTORY	winstar	se			X	Version	Example procedures, scripts ...
\$USER_DIRECTORY	winstar	sh_histo			X	Use	Last 500 commands done
\$USER_DIRECTORY	winstar	sp			X	Use	Personal procedures, scripts ...
\$HOME		star_rc*	X			Version	Files necessary for general menus of STAR software
\$HOME		stati	X			Use	List of statistic studies created
\$HOME		sylvia	X			Use	Directory containing the images created by SYLVIA (trees generation)
\$HOME		table		X		Version	Standard table of parameters of graphic editor STAR CARTO, STAR CAD
\$BASE_NAME		terrains	X			Use	DTMs
\$HOME		thema	X			Use	List of thematic studies created
\$BASE_NAME		topo	X			Use	Topographic projects
\$HOME		torp		X		Use	Legend's locking file
\$BASE_NAME		trace		X		Use	Contains files of plotting options tables
\$HOME		trans	X			Use	Contains exchange format files

Directory			Data	Customization	Software	Temporary	How long used	Comment
								(DXF, DWG, ASCII)
\$HOME		trav				X	Use	Active in case of plotting, figure computing, ...
\$USER_DIRECTORY	winstar	u	X	X			Use	Related to Object management use
\$USER_DIRECTORY	winstar	x			X		Version	STAR programs

3.3 TEMPORARY FILES DIRECTORIES

The directories containing STAR temporary files are:

3.3.1 \$TMPDIR

For spatial reindexing, use of niceBD.

These files are **deleted after processing**.

Error files (*.log) may be also present, resulting from the start of the CX_server and UX_CXserver, or after DXF transfers, alphanumeric links,... These *.log files can be deleted at any moment with no consequence on the programs' operating but they should be analyzed first in case of problem related to these programs.

Apart from these files, **this directory should not be cleared as it contains files linked to the sockets used by CXserver**. Deleting these files stops CXserver.

3.3.2 \$HOME/trav*

All the files in these directories are **deleted with each login**.

These directories are **used for the temporary files linked to figure computing, plots, image rotations...**

These files are automatically deleted after processing.

Files with the .log suffix and the name of the figure currently plotted can be also found. This file saves the possible errors in the plot. As a result, it is sometimes used by the technical team to analyze a plotting problem.

The files in that directory can be all deleted if they still remain. Make sure, of course, that no processing is going on if you want them deleted as, in such a case, it would be necessary to repeat the operation.

The **core file created by a STAR dysfunction** is always in **/users/star_ux**. If it exists, it **can be deleted**.

If other files with that name are present somewhere else, they aren't caused by STAR software. In such a case, be careful...

CHAPTER 4: ACCESS SERVER TO MAPPING DATA

4.1 INTRODUCTION

The fundamental information of a mapping database, that is the **data layers**, may be subject to changes as **several users may work simultaneously on it**.

In fact, these users may **work one after the other on the same workstation or at the same time on different networked workstations**.

This situation may lead to inconsistencies or real problems if there is no **permanent database access control system**.

The most important functions of this control system are :

- § Possibility to **cancel a series of changes brought to any layer of any map**.
- § Possibility to **modify a layer by allowing the other users to keep on working on an older version of the layer**.
- § Possibility to **forbid the access to a complete layer or part of it for specific groups of users**.
- § Possibility for **several users to modify at the same time several areas of the same layer of a map**.

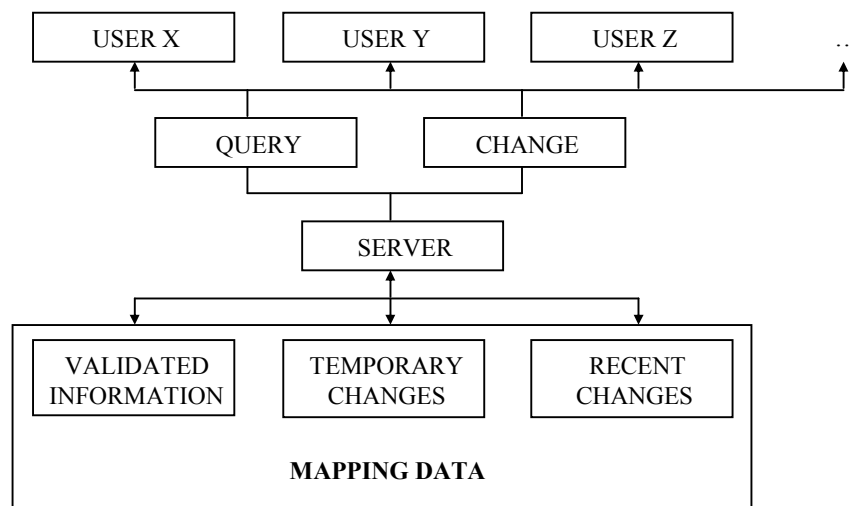
These functions are managed in WinSTAR by a **system** called ‘**access server to mapping data**’.

4.2 HOW THE SERVER WORKS – SIMPLIFIED EXPLANATION

The general principle of the server’s operating can be summarized as follows :

‘**Any access to the mapping database** by any user or program **is made possible** through a server. This server knows the **situation of the mapping data**, the **historic background of all changes** and all the **communications established** with it at any moment by all users.

In other words, the **server** (easier abbreviation that we are going to use from now on) plays a key role of **controller** and **manager** of **accesses to mapping data**. Regardless of their origin, these accesses are made possible only through a unique and quite well-informed correspondent.



4.3 TERMINOLOGY AND BASIC DEFINITIONS

A first group of terms presents all the explanations on how the system that checks access to mapping data, runs. Other terms, more technical, will be explained later on.

Server	The server or data server is a program that runs permanently on one of the networked workstations or on the only networked workstation. The server starts on the workstation(s) hosting the database(s) .
Locking	The user wants to modify part of the cartographic layer but does not want to annoy the other users.
Update	The user wants to add in the original layer the changes done by the user who has locked a part of the layer.
Validate	The user keeps an in-between situation of his/her job if s/he has to cancel the operations already done in order to return to a previous situation .
Cancel	The user wants to return to a previous situation .

4.2 LIST OF AUTHORIZED USERS

When installing WinSTAR or any other STAR product that uses the mapping database on several networked workstations (or on one sole), the person in charge of the installation has to **define the list of users and groups of users likely to create, query or modify the maps**.

- i** This **information is centralized** in a file in the server's workstation. Its name is **/user_file** and is in a directory known exclusively by the setup manager who, of course, may forbid its access with a password known by himself/herself only.

The table of authorized users presents the names of the people likely to modify mapping data but also names of groups of authorized people. This means therefore that **this system enables the user to forbid access and changes in specific layers to users who do not belong to the authorized groups**.

Here is the usual presentation of a table of authorized users:

<i>Nr</i>	<i>User</i>	<i>Password</i>	<i>Group Nr</i>	<i>Note</i>
1	star_ux	*****	1	*1
2	Serge	sm	2	*2
3	Andre	xyz	1	
4	Claude	a623	3	
5	CADASTRE	321	4	*3
6	VOIRIE	axb	2	
7	...			
...				

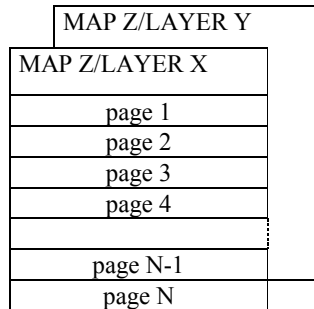
- i** Note :
 - § **Nr** is a number between 1 and n. A logical sequence is not compulsory but each line must have a different number.
 - § **User** is a user name which must be one sole string of characters with no blank space. Each line must have a different name.
 - § **Password** is associated to the user. The password is compulsory but can be identical to another user's.
 - § The **Group Nr** is a number obliging the user to be part of a specific group of users. This number will be used when defining the database access rights for the group.
 - § ***1** The software designer keeps a password to access the data and in case of problem.
 - § ***2** Passwords should remain short. First, they can be public.
 - § ***3** When the user is a group of users, it means that particular layers have been locked by this group so that it is the only one to be able to modify the information.

4.5 INTERNAL STRUCTURE OF THE MAPPING DATABASE

In order to understand how the server runs, it may useful to **describe the structure of the mapping database**. Of course, **this technical description is quite simplified** so that the reader fully understands the mechanisms that are really interesting.

4.5.1 Principle A

A data layer is a file of unlimited size cut into records of limited size, the pages.



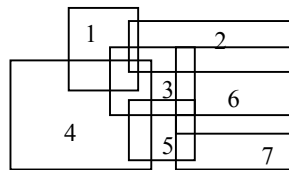
§ **A page contains altogether points, lines, surfaces, texts, dimensions, ...**

§ **A page is a group of independent pieces of data**

§ **When a page is 'full' of data, the system fills in another page.**

4.5.2 Principle B

Pages should represent a rational division of the territory of the layer.



If the layer has been created rationally, that is area by area, **the pages created have to cover adjacent areas and overlap as little as possible.**

An **automatic reorganization** of the database **would permit a restructuring of the pages as files** totally invisible for the user.

1		2
3		4

4.5.3 Principle C

A page covering an area may appear several times in a layer because of the consecutive versions still not validated.

MAP Z/LAYER Y
page 1 original version
page 1 modified by user X
...
page M original version
page M temporary version created by Y
page M current version, created by Y
...

4.5.4 Principle D

A page can be modified only by one user at a time.

In other words, a **layer may only appear 3 times at the most in a layer**:

1. The **original version** accessible in query mode for everybody.
2. The **latest version just created by the user** who is the only one authorized to modify it.
3. The **intermediate version possibly saved by the user and which enables him/her to return to the previous situation.**

4.5.5 Principle E

Each page created is characterized by several pieces of information on its status.

Page X of Layer Y of Map Z

- § Either **original version** of the page
Or **intermediate version** of the page
Or **last version** of the page
- § **Creation date**
- § **Modification date**
- § **Date of possible locking**
- § **Name of the operator** who has locked the layer

4.5.6 Principle F

The layer of an original version of the page is never changed.

- § If the change done by the user concerns an original page, a new version of this page is created, parallel to the first one (latest version of the page).
- § If the change done by the user concerns the latest version of the page, the server changes this page and saves it again.

One of the tasks of the server is to keep this specific information updated and to organize its distribution among all the pages of each layer.

The system of dividing one layer into pages enables the server to

- § **Keep several consecutive versions of the page.**
- § Cancel actions.
- § **Allow several users to access at the same time the same data layer** (cut into pages).

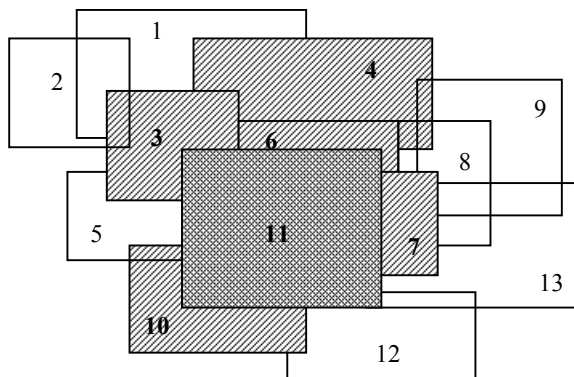
4.6 LOCKING PART OF INFORMATION - PRINCIPLE

When a user wants to modify a specific area in a layer, s/he locks the whole layer or part of it.

In the first case, the response of the server is obvious:

No other user may modify the pages of this layer nor may s/he add other pages even geographically located next to the existing information of the layer.

But when locking concerns only part of a layer, the response of the server is slightly different.



The **numbered rectangles** represent **splitting into pages**.

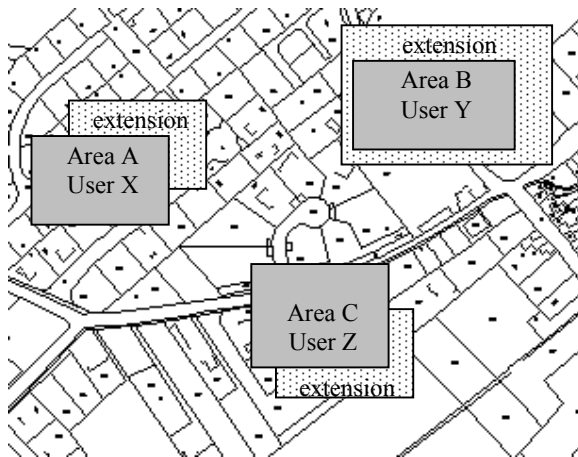
The **hatched rectangle** represents the **area locked** by the user.

The **pages 3, 4, 6, 7, 10 and 11** are locked by the user as they **overlap the locked area**.

As a result, the **action area** of the user **extends directly to the pages that exceed the area s/he has locked** (extension of the locked area).

!!! WARNING, another user can not lock an adjacent area if it encroaches on area A. Nor can s/he modify the information found in the pages covering the extension of area A.

!!! WARNING, the user who is working on area A can create information that goes beyond the locked area.
This information induces the extension of the locked area.



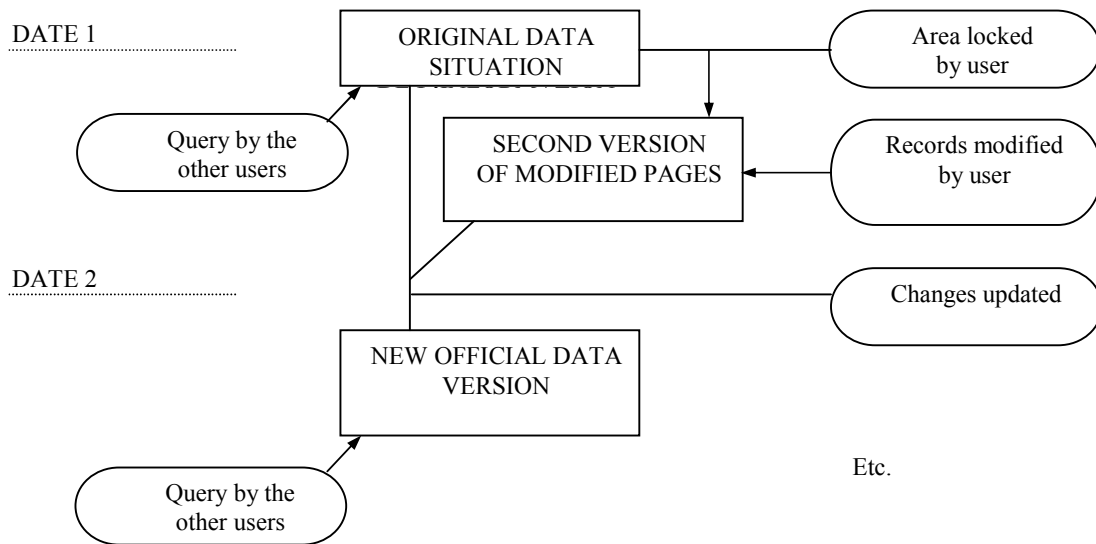
The characteristics linked to that unlocking system can be summarized as follows:

- § **Any user may work in a layer only after s/he has locked an area.**
- § **Any user may only lock one sole (work) area** in each layer.
- § **Only the user who has done changes can see them.** The other users will only query the original version.
- § **The other users can not modify nor delete data found in a locked area or in an extension of it** created afterwards.
- § **Any user may always work outside the area s/he has locked** without bothering the other users.
- § **Any user can not modify or delete data that is outside the area s/he has locked except if s/he's the one who has just created this information.**
- § **The changes done by a user are visible by the others only when it has been completely updated.**
- § The frame of the **overview** of a layer is set by the **creation area** of all the people having (or not) updated the layer.
- § The **maximum and minimum display scales of a layer can be unique for all users** or given by the definitions in the compositions (reading is linked to the variable of ECH_SAVE_MODE table). When ECH_SAVE_MODE=h, **the layer is only given the change of scale done by the last user.**

4.7 VALIDATING CHANGES - PRINCIPLE

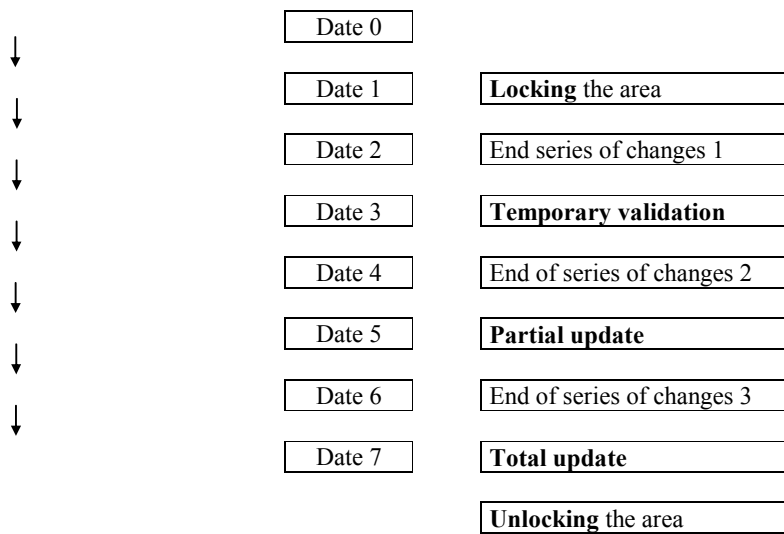
The user who has locked an area or an entire layer protects in fact the original version of the information as it is never directly modified.

The usual or simple procedure works like follows:



Etc.

This diagram may get complex as the user who has locked an area may do intermediate validations also called temporary validations to keep an “in-between” situation of the job.



With :

Temporary validation	Save intermediate variant
Partial update	Replace the initial version with the intermediate version
Total update	Replace the initial version with the very last version.

- i Note :
 - § Validation means saving an intermediate situation
 - § Update means replacing the initial ‘official’ version

4.8 CANCELING CHANGES - PRINCIPLE

Part or all the changes done by any user may turn out useless or wrong.

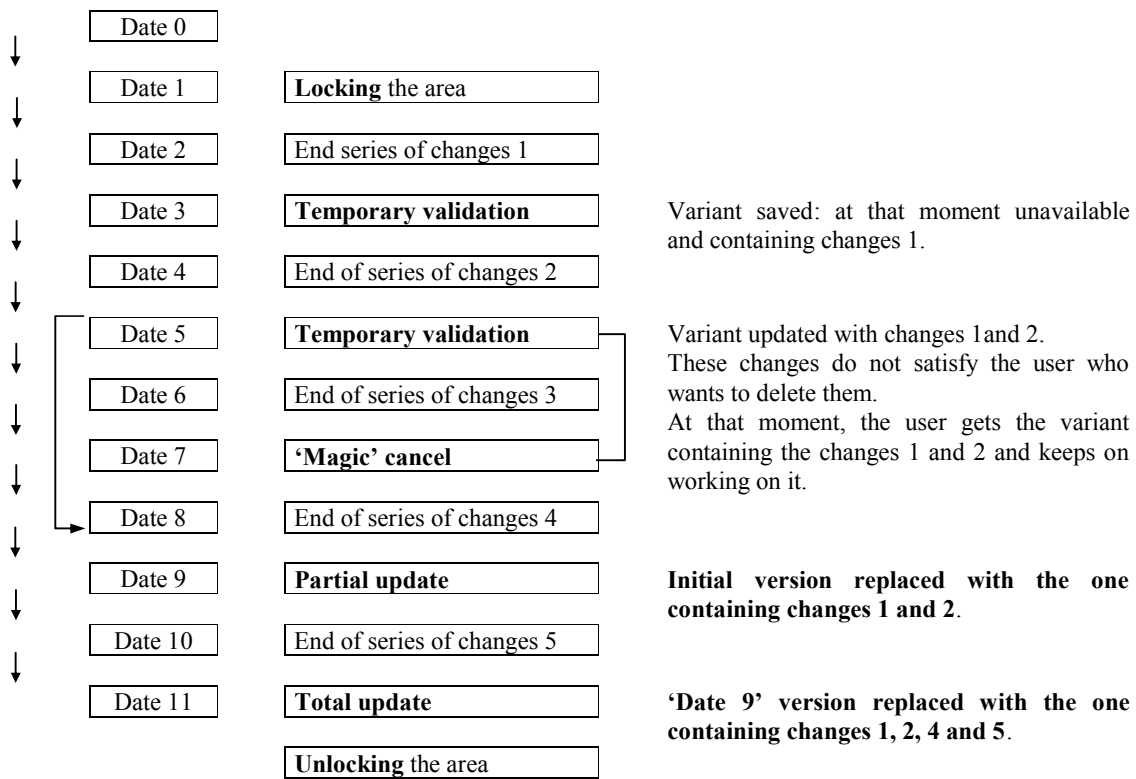
In that case, s/he **cancel**s all his/her changes and returns to the initial situation. The drawback of this method is that **it cancels all the changes done since the initial locking or since the latest ‘complete’ update.**

If the user has **saved intermediate situations with the ‘temporary validation’ command**, it is **possible to return and find a version preceding the wrong operations.**

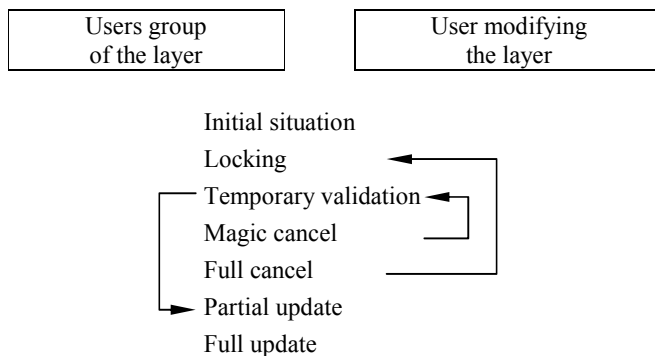
Total cancel	Return to initial situation
Magical cancel	Return to last validation
Cancel by command	Cancel last command. Commands can be canceled one by one , up to the last validation or update in the active layer.

- i** Note :
 - § When update is done, it is no longer possible to return to the previous situation.
 - § Full or partial cancel only works for the user who has locked the layer or an area of the layer.

The usual procedure works like follows:



This last diagram explains these validation, cancel and update operations :

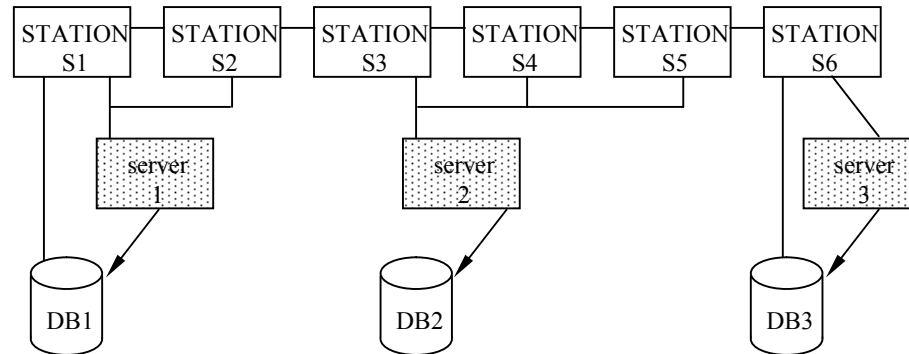


4.9 GETTING DATA SERVER STARTED

Any WinSTAR application needs to communicate with the data server to access mapping databases.

In fact, this specific program may run on any networked workstation.

The data server runs on the workstation that hosts the queried database. This means that, if several databases are located on several 'server workstations' queried by networked 'client workstations', there are as data servers running at the same time.



That is why, **when any application's running, you need to specify with which server it has to communicate.** When the question « Change server » appears, you need to answer for instance, S1.RD.ST if the program is running on workstation S1.

When the **MAPPING application** is loaded, you must (in the following order):

1. **Encode the name of the server**
2. **Encode your operator's name**
3. **Encode your password**

Also, before any user starts another computing or plotting application, s/he must have specified the same information via the '**server preference**' option to give access to the mapping database.

The Server program usually starts automatically when the server starts running. This workstation doesn't necessarily have to be in the STAR environment because the data server has been started before 'login' appears. The server can be setup with the minimum of STAR software to guarantee access to the data (cf. installation guide for data servers).

If the Server program is not started or if it is necessary to start it upon request, you must :

1. Create another window
2. Encode **UX_CXserver &** <return-> in this window

Finally, respect this simple rule to avoid any trouble:

'The workstation on which a server program runs should not be turned off before all connected workstations have canceled WinSTAR processes'.

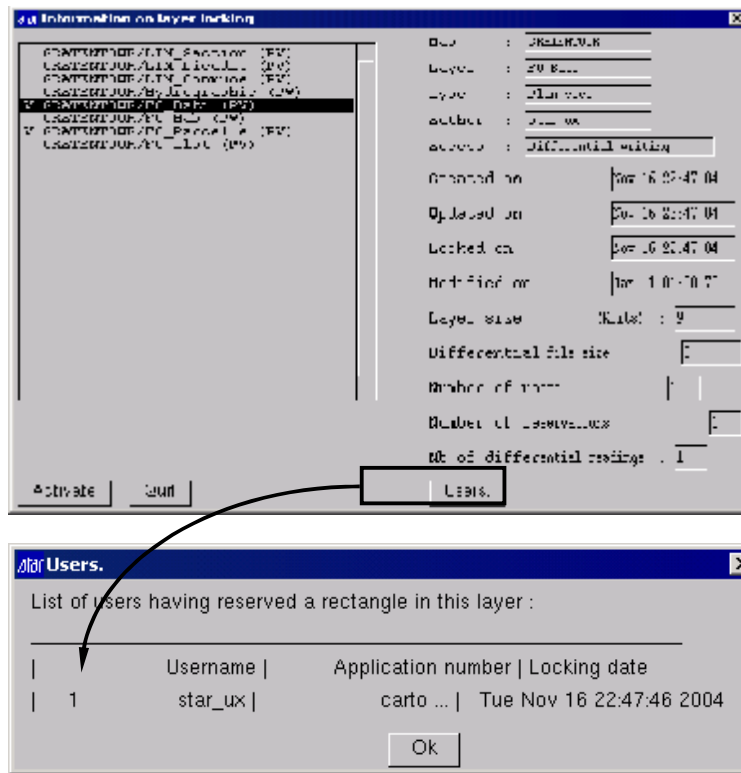
4.10 USING 'LOCK/CANCEL' MENU

With WinSTAR or any related application ('ROAD',...), the menus 'File>Locking/Unlocking', 'File>Administration' and 'Edit' give access to all the commands necessary for the following operations:

- § **Information on locking**
- § **Locking**
- § **Validation**
- § **Cancel**
- § **Update**

4.11 INFORMATION ON LAYER LOCKING

WinSTAR command 'File>Locking/Unlocking>Information on layer locking' displays a **dialog with information on locking of selected layers**.



For instance, this dialog provides you with several pieces of information on the layer you have selected, such as:

- § Several **dates**
- § The **number of users querying** the layer
- § The **number of locked areas**
- § The **size of the layer** in its original version
- § The **size of the changes** done by the users and **still not replicated** in the original version (!!! **WARNING : the layer isn't getting bigger in size**).
- § The number of your applications which query variants at a specific moment (**how many times it is queried**)

4.12 USING LAYER LOCKED BY SEVERAL APPLICATIONS

When **one same user has to access the same layer in different applications**, the following cases can specify the operating mode :

- ▶ **Case n°1: One update application**
One or several query applications

Example : figure computing on locked layers

This is the usual way to work. The query application 'sees' exactly the same information as the update application does. It is therefore not necessary to validate or unlock.

Update will be able to unlock the layer only when all queries are done. This can be checked in the 'information on layer locking' dialog : the number of times it is queried has to be 1.

If the query application has opened the layer before it is locked, it has not access to the differential file and the updates done are not visible. Close the application and restart to have access to updates.

► **Case n°2: Two update applications**

Example : adding roads integrated into map

In that case, if it is the same user who uses the 2 applications, validation and unlocking are absolutely necessary to switch from one application to the other.

Follow the procedure here under:

1. Enter application 1
2. Lock layer 1 (or rectangle)
3. Update where necessary
4. Update or full cancel
5. Unlock rectangle
6. Enter application 2
7. Lock layer 2 (or rectangle)
8. Update where necessary
9. Update or full cancel
10. Unlock rectangle

Other applications may query, of course, the layer between locking and unlocking. This example is given in case Nr 1.

A more flexible method consists in using a different user name in each update application. To have the changes brought by application 1 visible in application 2, update completely (or partly) application 1 and vice-versa.

4.13 LIST OF MESSAGES RETURNED BY SERVER

Several messages informing on **wrong operations, processes aborting or operating problems** may appear in the middle of your screen.

It is not necessary to analyze systematically these messages but they can help you understanding many problems.

#48 Unable to unlock for the moment	<i>Cause :</i>	Another application is reading the differential file and it can not be deleted for the moment
	<i>Solution :</i>	Unlock rectangle when the other applications no longer run
	<i>Message :</i>	Unable to unlock for the moment
#49 Operation not valid on unlocked layer	<i>Cause :</i>	Attempt to write without prior locking
	<i>Solution :</i>	Lock rectangle and restart
	<i>Message :</i>	Operation not valid on unlocked layer
#50 Problem memory allowed	<i>Cause :</i>	Free memory full, too many layers open, too many images,...
	<i>Solution :</i>	Close layers, images, ...
	<i>Message :</i>	Memory allowed
#51 Problem opening database	<i>Cause :</i>	Very common error, server is not running
	<i>Solution :</i>	Start server
	<i>Message :</i>	Opening database
#52 Problem accessing database	<i>Cause :</i>	Unable to position in database
	<i>Solution :</i>	Return to backup version
	<i>Message :</i>	Accessing database
#53 Problem reading database	<i>Cause :</i>	Unable to read database again
	<i>Solution :</i>	Return to backup version
	<i>Message :</i>	Reading database
# 54 Problem writing	<i>Cause :</i>	Unable to write in database
	<i>Solution :</i>	Return to backup version

# 55 Problem closing database	<i>Message :</i>	Writing database
	<i>Cause :</i>	Unable to close database
	<i>Solution :</i>	Problem solved when server stopped
# 56 Problem opening info_graph	<i>Message :</i>	Closing database
	<i>Cause :</i>	info_graph file of missing layer
	<i>Solution :</i>	Return to backup version
# 57 Problem accessing info_graph	<i>Message :</i>	Opening info_graph
	<i>Cause :</i>	Unable to enter info_graph
	<i>Solution :</i>	Return to backup version
# 58 Problem reading info_graph	<i>Message :</i>	Accessing info_graph
	<i>Cause :</i>	Unable to read info_graph again
	<i>Solution :</i>	Return to backup version
# 59 Problem writing info_graph	<i>Message :</i>	Reading info_graph
	<i>Cause :</i>	Unable to write in info_graph
	<i>Solution :</i>	Return to backup version
# 60 Problem closing info_graph	<i>Message :</i>	Writing info_graph
	<i>Cause :</i>	Unable to close info_graph
	<i>Solution :</i>	Problem solved when server stopped
# 61 Problem opening undo	<i>Message :</i>	Closing info_graph
	<i>Cause :</i>	Differential file of missing user
	<i>Solution :</i>	Return to backup version or full cancel
# 62 Problem accessing undo	<i>Message :</i>	Opening undo
	<i>Cause :</i>	Unable to position in differential file
	<i>Solution :</i>	Return to backup version or full cancel
# 63 Problem reading undo	<i>Message :</i>	Accessing undo
	<i>Cause :</i>	Unable to read differential file again
	<i>Solution :</i>	Return to backup version or full cancel
# 64 Problem writing undo	<i>Message :</i>	Reading undo
	<i>Cause :</i>	Unable to write in differential file
	<i>Solution :</i>	Return to backup version or full cancel
# 65 Problem closing undo	<i>Message :</i>	Writing undo
	<i>Cause :</i>	Unable to close differential file
	<i>Solution :</i>	Problem solved when server stopped
# 66 Database incoherence	<i>Message :</i>	Closing undo
	<i>Cause :</i>	Wrong info_graph size or format
	<i>Solution :</i>	Return to backup version
# 67 info_graph incoherence	<i>Message :</i>	Database incoherence
	<i>Cause :</i>	Wrong info_graph size or format
	<i>Solution :</i>	Return to backup version
# 68 undo incoherence	<i>Message :</i>	info_graph incoherence
	<i>Cause :</i>	Wrong differential file size or format
	<i>Solution :</i>	Return to backup version
# 69 Problem page reserved	<i>Message :</i>	undo incoherence
	<i>Cause :</i>	Attempt to lock already locked page
	<i>Solution :</i>	Do not lock, lock another rectangle or ask the owner of the rectangle to unlock
# 70 Problem page free	<i>Message :</i>	Page reserved
	<i>Cause :</i>	Attempt to unlock page not locked
	<i>Solution :</i>	Error almost impossible, execute future post mortem progra
# 71 Already locked	<i>Message :</i>	Page free
	<i>Cause :</i>	The user already owns a rectangle locked on this layer
	<i>Solution :</i>	The user must unlock first his/her rectangle
# 72 Overlapping with other locked rectangles	<i>Message :</i>	Rectangle already locked for the user
	<i>Cause :</i>	The user wants to lock a rectangle partly locked by another
	<i>Solution :</i>	Do not lock, lock another rectangle or ask the owner to unlock his/her rectangle
	<i>Message :</i>	Overlapping with other locked rectangles

# 73 Too many rectangles locked in this layer	<i>Cause :</i>	Maximal locking number on this layer reached (maximum=6)
	<i>Solution :</i>	Do not lock or ask the owner of rectangle to unlock
	<i>Message :</i>	Too many rectangles locked in this layer
# 74 Problem cache memory allocation	<i>Cause :</i>	The server gives too much memory for cache memory of pages
	<i>Solution :</i>	Restart server with smaller cache memory size
	<i>Message :</i>	Cache memory allocation
# 75 Problem cache memory liberation	<i>Cause :</i>	The server does not free the cache memory
	<i>Solution :</i>	Problem solved when server stopped
	<i>Message :</i>	Cache memory liberation
# 76 Problem already accessing subheading	<i>Cause :</i>	Another user has already asked to modify the subheading and hasn't done it yet
	<i>Solution :</i>	Try again later
	<i>Message :</i>	Already accessing subheading
# 77 Unable to modify subheading	<i>Cause :</i>	Another user is modifying the subheading
	<i>Solution :</i>	Try again later
	<i>Message :</i>	Modifying subheading
# 78 Wrong user password	<i>Cause :</i>	Wrong user password
	<i>Solution :</i>	Change password and restart
	<i>Message :</i>	Wrong user password
# 80 Wrong user name	<i>Cause :</i>	User with this name not recognized on this server
	<i>Solution :</i>	Change user name and restart
	<i>Message :</i>	Unauthorized user
# 81 Problem user file	<i>Cause :</i>	User file does not exist
	<i>Solution :</i>	Create user file
	<i>Message :</i>	User file
# 82 Wrong user number	<i>Cause :</i>	User numbers have been changed in the user file while server's running
	<i>Solution :</i>	Return to previous user file version
	<i>Message :</i>	Wrong user_id
# 83 Problem accessing cache memory	<i>Cause :</i>	Problem of cache memory management
	<i>Solution :</i>	Full stop and restart server
	<i>Message :</i>	Cache memory access
# 84 Undo file full	<i>Cause :</i>	No more space on disk
	<i>Solution :</i>	Magic cancel or partial validation
	<i>Message :</i>	Undo file full
# 85 Locked by other application	<i>Cause :</i>	The user tries to validate, update or unlock the rectangles s/he owns but which s/he has locked in another application
	<i>Solution :</i>	Do these operations with the application used for locking
	<i>Message :</i>	Undo file already open

PART 3: CLEANING AND ADMINISTRATION

CHAPTER 5 : CARTO

5.1 INTRODUCTION

This chapter presents a few procedures used to **clean** and **reorganize your graphic database**.

5.2 COMPUTING AGAIN COORDINATE ENDPOINTS (**rescue Extr**)

5.2.1 Topic

**Used to redefine the endpoints of the database, layer by layer.
This tool rearranges the pages that define the layer's scope.**

For instance, when is it necessary to compute again endpoint coordinates ?

The overview of a layer does not match any more the logical area of the layer. The whole layer is represented at a very small scale.

In fact, regardless of the reason, an isolated graphic object can be very far from the other localizers of the layer.

This is more easily highlighted in fast drawn mode (menu 'Tools/Options/Display tab/Drawing speed/Fast drawn').

Once the isolated objects deleted, the 'Overview' command will not snap on still existing objects and it is necessary to compute again the endpoint coordinates of a layer.

5.2.2 Methodology

5.2.2.1 Check first

Make sure the layer to be processed is unlocked.

5.2.2.2 Operating mode

► Interfaced method :

1. Enable the appropriate work session
2. In 'Start / Programs / **WinSTAR / CARTO WinSTAR / CARTO WinSTAR Tools.../ Retrieve data/Recompute endpoints**'
3. Select in the next dialog the map/layer to be processed
4. Click 'Select layer' for validation
5. When the 'Retrieve data' menu reappears, the process is done.

► Manual method :

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. For on-line help, encode : **rescue Extr -u**
5. Modify the syntax of the command according to the instructions of the on-line help.

i See also `/Winstar/Winstar/usage/F/rescue Extr`

```

C:\>sh
$ rescue_extr -u

rescue_extr carte couche [repertoire]
Recalcule les extremes de toutes les pages + mise a jour complete de la couche

rescue_extr carte couche -s <num> [repertoire]
Impose un systeme de coordonnees
rescue_extr carte couche -g [repertoire]
Renseigne un systeme de coordonnees
Ce module fait partie de CXrescue, c'est a dire le set d'outil de reparation de la base de donnee carto
$

```

5.2.3 Don't forget

If new endpoint coordinates define an area smaller than the one containing the data of the layer, the data outside the new endpoints is lost because the system resets the endpoint coordinates of the layer.

5.3 REORGANIZING MAP/LAYER (sc_CXOrg)

5.3.1 Topic

The graphic database is divided into a series of 'pages'. After some time, information can be saved in different pages when it concerns one same geographic area.

With large databases, you may notice **a loss of performance**.

sc_CXOrg enables you to **change the internal structure of the mapping database**.

This tool enables you to cut again the pages of the layer and so, to optimize access performance to the graphic data (up to a factor 10) to the detriment of the space used by the layer on the drive (20 to 30% of size increase in worst cases).

This program creates a new map with the same layers but with a different internal organization.

sc_CXOrg is often followed by sc_CXCopy to copy again the layer in its original map (*Cf. § '5.5 Duplicating map/layer (sc_CXCopy)' on page 53*).

5.3.2 Methodology

5.3.2.1 Check first

1. Make sure that layers are unlocked
2. Make sure that you have saved the layer to be reorganized
3. Make sure that you have enough disk space to do the operation. **You need at least 3 times the size of the original layer.**

5.3.2.2 Operating mode

► Interfaced method :

1. Enable the appropriate work session
2. In 'Start / Programs / **WinSTAR / CARTO WinSTAR / CARTO WinSTAR tools / Map-Layer reorganization**'
3. Encode parameters in the dialogs one after the other
4. When the 'Retrieve data' menu reappears, processing is done.

► Manual method :

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **sc_CXOrg** (return↵)
5. Encode parameters in the dialogs one after the other

- i** See also the files :
- § \$STAR_DIR/help/F/CXOrg
 - § \$STAR_DIR/usage/F/CXOrg

5.3.3 Don't forget

The name of the destination map must be different from the initial map's.

The name of the destination layer is optional. If not given, it will be identical to the initial layer's.

For 'Link' parameter:

- § **ON** : **Links** of the original map/layer **switched** to the destination map/layer. The links of the original map/layer are lost.
- § **OFF** : **No processing**. The existing links remain with their original map/layer.
- § **NEW** : **Links** of the original map/layer **duplicated** for the destination map/layer. So, links are operational on the original map/layer and on the destination map/layer.

The program executes 8 work steps whose progress can be seen in the system window in which the command is enabled.

- § Step 0 : Initialization.
- § Steps 1, 2, 3 : Analysis and reorganization of the original layer.
- § Steps 4, 5, 6 : Creation and organization of the destination layer.
- § Step 7 : Closing files.

If graphic elements of a layer to be reorganized have names and identifiers, the same layer name must be kept for the destination layer.

A **file_CXOrg** executable can be used to reorganize the maps/layers of your choice by the replacement of the original maps/layers.

The executable is started in a system window by the following commands:

1. Create a system window (on PC, open a 'Command prompt')
2. Encode : **sh** (return↵)
3. Encode : **file_CXOrg <layer_file>** (return↵)

In which

- § **<layer_file>** is an ASCII file that lists the maps/layers that will be reorganized by the command.
- § Each line contains a map name and a layer name separated by a blank space.
- § The executable creates a backup of the links before reorganizing the layers and update the links in the attribute database. This corresponds to the option **ON (Move links) mentioned here above**.

5.4 STRUCTURING DATABASE (niceBD)

5.4.1 Topic

The role of the tools described here under is to increase database quality by deleting the redundant information.

A general interactive tool, **niceBD**, enables you to easily access all existing programs:

- § **Deletion of double points**
- § **Deletion of double lines**
- § **Division of lines on nodes**
- § **Projection of the points on lines**
- § **Automatic creation of surfaces**

These programs can apply to layers, successively or isolated.

5.4.2 Methodology

5.4.2.1 Check first

- § The processed **layer** has to be **updated** and **unlocked** before the operation done by niceBD.
- § We recommend you to make first a **backup of the layers and to do these processes on the 'server' workstation.**

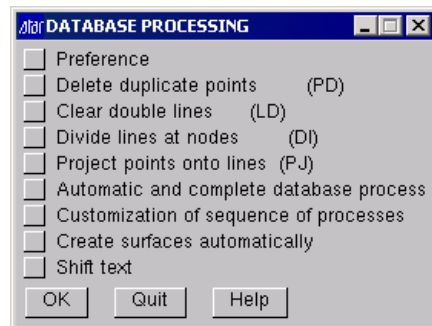
5.4.2.2 Execution

1. Enable the appropriate work session
2. In 'Start / Programs / WinSTAR / CARTO WinSTAR / CARTO WinSTAR tools/ 'Data processing'
3. Customize the dialogs one after the other
4. When the 'Database processing' menu appears again, the process is done.

In which

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **niceBD** (return↵)
5. Customize the dialogs one after the other

i See also /Winstar/Winstar/help/F/nicebd



5.4.3 Temporary files

Executing all programs creates temporary CISAM files, placed in \$TMPDIR directory, for instance /tmp/file.dat and /tmp/file.idx.

The size of the file created by CXtoQuad depends on the number of points or lines in the map.

The size of the file created by CXdoub depends on the number of pairs of double elements detected.

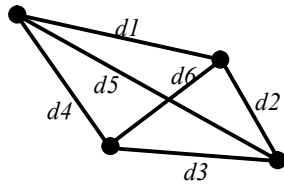
These files are automatically deleted at the end of the script. **Enough disk space is necessary, at least half the volume of the layer.**

5.4.4 Deleting double points

Two points are double when the distance that sets them apart is shorter than a distance called '2D accuracy' to be given and properly chosen by the user.

By extension, several points will be double if and only if the distances between the points taken 2 by 2 are shorter than the 2D accuracy.

Double points are then replaced by one sole point whose coordinates are the average of the coordinates of double points. The new point does not necessarily keep the attributes because there is no option enabling you to choose the points to be preserved among all double points. If lines are linked to these points, they will be linked to the new point.



All d_j distances are shorter than $2D$ accuracy

Encode values for the following parameters:

2D accuracy	Maximal distance between 2 'identical' points, expressed in meters.
Point type	§ ON : points are double if they have the same type. § OFF : if the type is not saved.
Point altitude	§ ON : points are double if they have the same altitude at a certain accuracy specified by the option 'Accuracy on altitude' and expressed in meters or if one of them has 'no altitude'. A point has 'no altitude' when its Z equals the value of the option 'Altitude not specified'. § OFF : if altitude is not saved.
Point bearing	§ ON : points are double if they have the same bearing at a specific accuracy, in grades in the option 'Accuracy on bearing'. § OFF : if the bearing of the points is not saved.
Point dimension	§ ON : points are double if they have the same dimension at a specific accuracy, fixed by the option 'Accuracy on point dimension'. This applies to the points that have one or two dimensions. § OFF : if the dimension of the points is not saved.

5.4.4.1 Don't forget

Some double points may not be deleted in that special case where 1 or several points are distant from the main point, of a distance equal to accuracy. The solution consists in choosing a slightly different accuracy to delete double points a second time.

For instance, choose a 2nd accuracy of 2,499 instead of 2,5 meters.

5.4.4.2 Manual execution

Order in which programs have to be executed to delete double points:

1. CXtoQuad ...

2. CXdoub ...
3. CXmodifBD ...

Example :

CXtoQuad -P 0.5 -f pt_doub_1 -T Liege Voirie

CXdoub -P 0.5 -f pt_doub_2 -F pt_doub_1 -t 1 -T Liege Voirie

CXmodifBD -P 0.5 -F pt_doub_2 -T Liege Voirie

This example deletes the double points in the map/layer Liege/Voirie and saves the points type and 2D accuracy which is 0.5 meter.

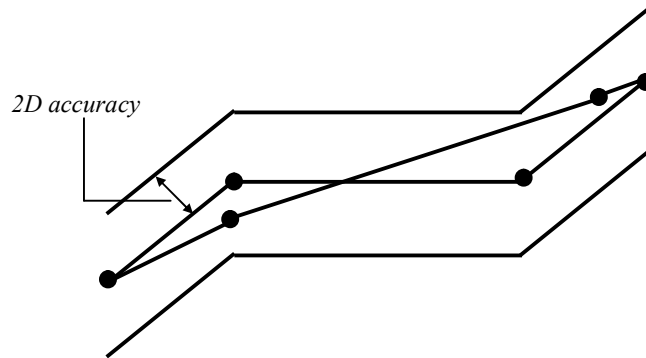
- i** The accuracy used in each program must be the same when a layer is being processed.

5.4.5 Deleting double lines

Two different criteria characterize double lines. That's why 2 processing options are proposed:

► **Method 1 :**

2 lines (or by extension, several lines) **are double** when their endpoints are common and when the distance of each point from a line to the other line is shorter than 2D accuracy.

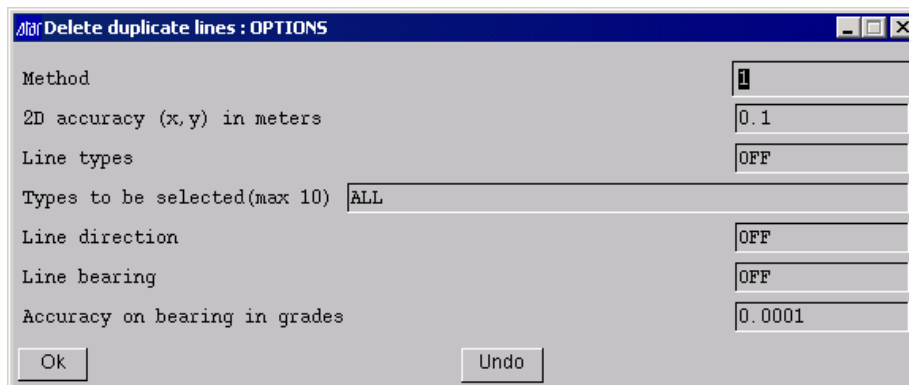


- i** 2 endpoints of 2 lines are common when endpoints are identical in the database, that is that they have the same graphic identifier.

► **Method 2 :**

2 lines (or by extension, several lines) **are double** when all their points are common that is, they have the same graphic identifier.

Double lines are replaced by one sole line keeping the features of the deleted lines. If surfaces rely on these lines, they will be linked to the new line.



The parameters to choose are identical in both cases:

2D accuracy	Maximal distance expressed in meters.
Line type	\$ ON : lines are double if they have the same type.

	§ OFF : if the type is not saved.
Line direction	§ ON : lines are double if their direction is the same. § OFF : if the direction is not saved
Line bearing	§ ON : lines are double if the differences between their start and end bearings on each point are respectively smaller than the value encoded in the 'Accuracy on bearing' option expressed in grades. § OFF : if the line bearing is not saved. § This option is useless when the process by option 1 is chosen.

5.4.5.1 Manual execution

Order in which programs have to be executed to delete double lines:

1. CXtoQuad ...
2. CXdoub ...
3. CXmodifBD ...

Example :

CXtoQuad -P 0.2 -f lg_doub_1 -L Liege Voirie

CXdoub -P 0.2 -f lg_doub_2 -F lg_doub_1 -t 2 -L Liege Voirie

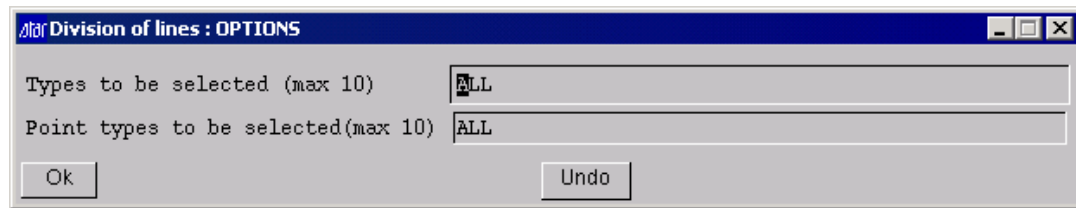
CXmodifBD -P 0.2 -F lg_doub_2 -L Liege Voirie

This example deletes the double lines in the map/layer Liege/Streets and saves the lines type, the bearing of the line on one point and 2D accuracy which is 0.2 meter.

i The accuracy used in each program must be the same when a layer is being processed.

5.4.6 Dividing lines on nodes

This functionality is identical to the commands of the cartographic editor 'Edit/Modify Line/Divide on common points/Options/Divide lines on intersections (straight seg only)' which divides on one point all the lines going through that point.



5.4.6.1 Don't forget

Lines are divided on one point when the number of lines going through this point is >1.

A line will not be divided on one point if all the segments on both sides of the point are identical for all the lines.

Example :double lines.

5.4.6.2 Manual execution

Order in which programs have to be executed to divide lines on nodes:

1. Cxdiv_lig ...

Example :

Cxdiv_lig Liege Voirie

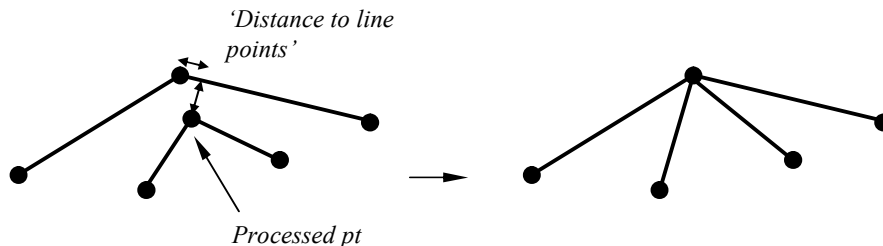
This example divides the lines of the map/layer Liege/Voirie.

5.4.6.3 Projecting points on lines

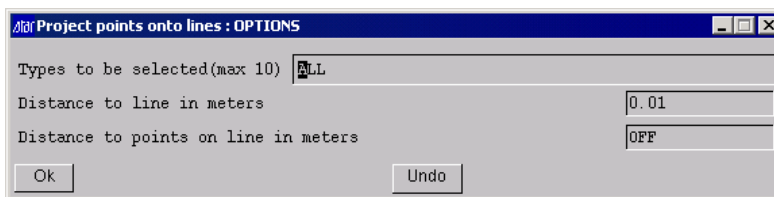
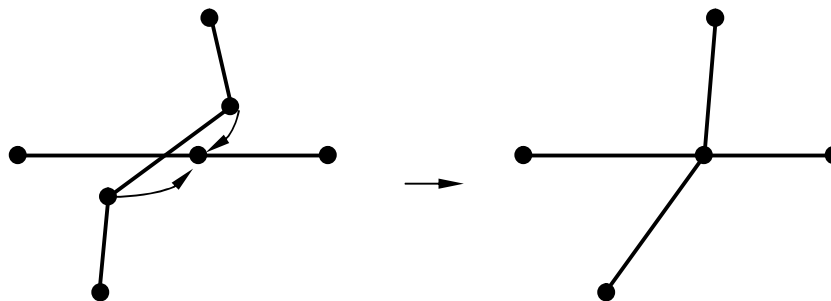
This tool **projects a non isolated point** (that is, that belongs to a line) **and inserts it into a line close enough**. A point is close enough from a line when its distance to the line is shorter than the 'Distance to line'.

► **Specific cases:**

§ When the distance between the projection of the point on the line and one of the line's points is shorter to the 'Distance to line's points', the point is not included into the line at the place where it is projected but shifted on the point (new double points).



§ When 2 consecutive points of one same line have to be projected on the same point, the 1st point is projected and the 2nd one is removed from the line.



The parameters to choose are:

Distance to line	Expressed in meters.
Distance to points on line	Expressed in meters. OFF : if encoded, the 'Distance to points on line' will be identical to the 'Distance to line'.

5.4.6.4 Manual execution

Order in which programs have to be executed to project points on the line:

1. CxtoQuad ...
2. Cxclean_lig ...

Example :

CxtoQuad -P 0.2 -f projette -L Liege Voirie

Cxclean_lig -P 0.2 -F projette Liege Voirie

This example projects the points of the map/layer Liege/Voirie into the lines of that layer when they satisfy the conditions previously described.

It will be maybe necessary to 'delete double points'.

5.4.7 Creating surfaces automatically

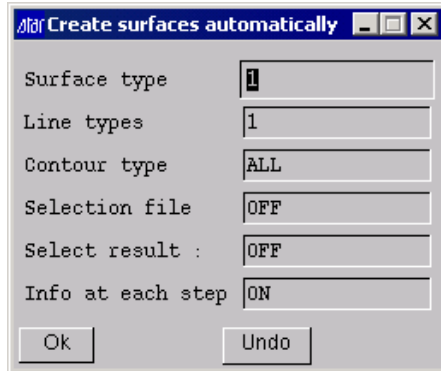
This module is a macro-procedure that automatically **creates all the surfaces and their blocks on all the closed contours of a layer. It does not save the existing surfaces** and creates again surfaces on all existing contours. **So, the layer should not contain any surface (except option –c and –f).**

The programs used are:

```

$ cx3_fsel_ele
$ manage_fsel
$ ig_fsel_get
$ mailleh
$ ig_ilots
$ ig_cree_as

```



The parameters to choose are:

Surface type	Legend type used for the generated surfaces.
Line type	Line type of the link lines between blocks.
Contour type	Type of the contours on which created surfaces will rely. § ALL : all line types are saved to detect contours. § TYPE NUMBER : to select the line type used to build surfaces. One sole type can be encoded.
Selection file	Uses a selection file containing all the lines on which surfaces have to rely. When the option is ' OFF ', no selection file is saved.
Info at each step	§ ON : The information on the progress of the operations is displayed. § OFF : Use this option if you don't want this information.

5.4.7.1 Don't forget

Use the macro-procedure **CX_all_surf** described in '[5.4.9.6 here under](#)' to complete the customization of the automatic surface creation.

It is not necessary to create, before creating surfaces automatically, the link lines between the blocks. These lines are, indeed, created by the tool where they are necessary.

5.4.7.2 Manual execution

Example :

```
CX_all_surf -s 5 -l 720 -i Liege Voirie
```

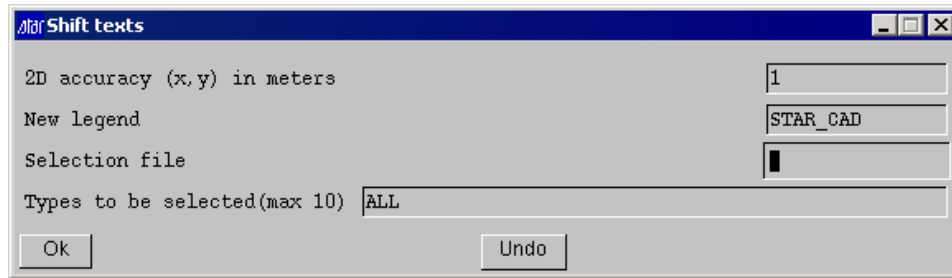
This example generates surfaces of type 5 in the map/layer Liege/Voirie. The link lines between blocks will be of 720 and the trace of the process is displayed.

More information in paragraph 5.4.9.6

5.4.8 Moving texts

The programs triggered are :

```
§ CXtoQuad
§ CXmove_txt
```



5.4.9 Manual execution

The programs triggered by niceBD are:

```
§ 5.4.9.1 CXtoQuad above
§ 5.4.9.2 CXdoub on page 49
§ 5.4.9.3 CXmodifBD below
§ 5.4.9.4 CXdiv_lig below
§
§
§ 5.4.9.5 CXclean_lig below
§ 5.4.9.6 CX_all_surf below
```

Each of them can be used individually.

You must leave a blank space between the option and the value.

Cf. appropriate § for the manual sequence of these programs.

5.4.9.1 CXtoQuad

This program divides a map/layer into a geometric quad-tree. It associates to each element (point, line, ...) a quad-tree that identifies the number of the quad in which the element is located. This operation will enable you to rapidly find the elements that are close geographically speaking.

Use (option -u) :

```
CxtoQuad [-p] [-P <P_accuracy>] -f <file_name> [-T] [-L] <map_name> <layer_name>
```

List of the parameters to be encoded :

-p	If the processed map/layer is a profile.
-P <P_accuracy>	Asks the user to define accuracy according to which division in quad-tree will be done. By default, this accuracy is 0.1 meter.
-f <file_name>	Asks for the name of the CISAM file in which all retrieved elements will be. It is in \$TMPDIR directory.
-T or -L	Specifies that you want to retrieve all the points and or all the lines.
<map_name>	Name of the processed map.
<layer_name>	Name of the processed layer.

i See also /Winstar/Winstar/usage/F/cxtoquad

```
C:\>sh
$ cxtoquad -u
cxtoquad: illegal option -u
? : option non reconnue
```


USAGE:
CXtoQuad [-p] [-P<precision>] -f<Nom du fichier CISAM> [-T] [-L] [-S] [-W] [-l<legende>] [-t<type,type,type,...>] [-Z<xmin,ymin,xmax,ymax>] [-F<Nom du fichier fsel>] carte couche

PARAMETRES :

-p : *precise si la carte/couche est une vue en plan ou un profil.*

-P<precision> : *demande a l'utilisateur de fournir une precision par rapport a laquelle le decoupage en quad-tree sera effectue. Par defaut, cette precision est de 0.1 metre.*

-f<Nom du fichier> : *demande le nom du fichier CISAM dans lequel seront places les differents elements recuperes. Il est place dans la directory \$TMPDIR.*

-T : *precise le fait que l'on veut recuperer les points.*

-L : *precise le fait que l'on veut recuperer les lignes.*

-S : *precise le fait que l'on veut recuperer les surfaces.*

-W : *precise le fait que l'on veut recuperer les textes.*

-D : *precise le fait que l'on veut egalement recuperer les elements effaces.*

-l : *precise la legende que l'on veut utiliser pour les textes (par defaut legende STANDARD).*

-t<type,type,type,...> : *precise les differents types des elements a recuperer (au maximum 10 types peuvent etre definis)*

-N<mode> : *precise le fait que l'on veut recuperer des points ou des lignes d'un util donne (0 tous, -I isole, I non isole)*
!!! Attention cette option represente l'ancienne '-U' qui sert maintenant)
!!! entrer les noms et mots de passe de l'utilisateur sur cette couche.

-U <UserName/PassWord>

-Z<"xmin ymin xmax ymax"> : *precise, au moyen de ses extremes, la zone par rapport a laquelle le decoupage en quad-tree sera effectue.*

-F<fsel> : *demande le nom du fichier de selection contenant les elements a decouper en quad-tree.*

[repertoire] : *demande le nom du repertoire, si ce n'est pas celui defini dans les options.*

Carte : *demande le nom de la carte.*

Couche : *demande le nom de la couche traitee.*

\$

5.4.9.2 CXdoub

This program uses a CISAM file created by CxtoQuad and analyzes it to remove all redundant items, that is the overlaying points, the overlaying lines. It creates another CISAM file in which it places the list of overlaying elements.

Usage (option -u) :

CXdoub [-p] -t <val> [-Z <z_pt_ref>] [-E <E_precision>] [-a <z_precision>] [-P <P_precision>] [-o <num>] [-s] [-g <G_precision>] [-T] [-L] -f <nom_fichier> -F <nom_fichier_CISAM> <nom_carte> <nom_couche>

List of parameters to be encoded :

-p	If the processed map/layer is a profile.
-t <val>	§ 0 : neither the type of points nor of lines is taken into account. § 1 : the types of points are taken into account. § 2 : the types of lines are taken into account. By default, no other type of element is taken into account.
-Z <z_pt_ref>	Specifies that points' altitude is taken into account. Also, all the points with unknown altitude given by z_pt_ref can be taken into account.
-g <G_precision>	Specifies that points' bearing is taken into account. G_precision is the accuracy of bearings.
-e <E_precision>	Specifies that points' size is taken into account. E_precision is the accuracy of sizes.
-f <nom_fichier>	Asks the user for the name of the file in which redundant elements are to be placed.
-F <nom_fichier_CISAM>	Asks the user for the name of the CISAM file corresponding to

	the map the user wants to modify (this file results from the action of CxtoQuad program).
-a <z_precision>	Altitude accuracy.
-P <precision>	2D accuracy.
-o <num>	Way to process double lines. § 1 : checks whether the 2 endpoints of the line are equal (option1). § 2 : checks whether all the points of the 2 lines are common (option 2).
-s	Specifies that the direction of the line is taken into account.
-G <G_precision>	Specifies that the bearing of the line is taken into account. G_precision is the accuracy of bearings.
-T or -L	Specifies that points or lines are being processed.
<nom_carte>	Name of the processed map.
<nom_couche>	Name of the processed layer.

i See also /Winstar/Winstar/usage/F/cxdoub

```
C:\>sh
$ cxdoub -u
cxdoub: illegal option -u
? : option non reconnue
Usage: CXdoub [-p] -T<val> [-Z] [-z<ref>] [-g] [-E]
      [-a<precision>] [-b<precision>] [-c<precision>] [-P<precision>]
      [-o<num>] [-s] [-g] [-T] [-L] [-S]
      [-f<file>] [-F<isam_file>] carte couche
$
```

5.4.9.3 CXmodifBD

This program uses the CISAM file created by CXdoub and which contains the information needed to modify the database.

Usage (option -u) :

CXmodifBD [-p] [-s] [-P <P_precision>] -F <nom_fichier_CISAM> [-o <num>] {[-T] / [-L] } <nom_carte> <nom_couche>

List of parameters to be encoded :

-p	If the processed map/layer is a profile.
-P <P_precision>	Defines accuracy (by default: 0.1 meter).
-F <nom_fichier_CISAM>	Defines the name of the CISAM file created by CXdoub.
-o <num>	Specifies the option chosen during the process done on lines by CXdoub.
-T or -L	Specifies that points or lines are being processed.
<nom_carte>	Name of the processed map.
<nom_couche>	Name of the processed layer.

i See also /Winstar/Winstar/usage/F/cxmodifbd

```

C:\>sh
$ cxmodifbd -u
cxmodifbd: illegal option -u
? : option non reconnue
Usage: CXmodifBD [-p] [-s] [-P<prec>] [-F<isam_file>] [-o<num>] [-T] [-L] [-S]
      [-O<fichier sortie>] [-f<format>] carte couche
Par défaut, le fichier de sortie contenant la liste des IG conserves est :
$HOME/trav/<carte>/<couche>.
Il est possible de specifier un autre fichier dont on donne le chemin d'accès complet, a l'aide de
l'option -O.
Le format de ce fichier vaut 0 s'il est utilise par CXGOliaison pour conserver les liaisons
alphanumeriques.
Il vaut 1 s'il contient la liste des IG conserves sous la forme d'un fichier de selection.
$

```

5.4.9.4 CXdiv_lig

This program uses all the lines of the database and divides them on the nodes from/to which other straight lines go or come (cf. description of the principle at § '5.4.6 Dividing lines on nodes' on page 45).

Usage (option -u) :

CXdiv_lig [-p] <nom_carte> <nom_couche>

List of parameters to be encoded :

-p	If the processed map/layer is a profile.
<nom_carte>	Name of the processed map.
<nom_couche>	Name of the processed layer.

i See also /Winstar/Winstar/usage/F/cxdiv_lig

```

C:\>sh
$ cxdiv_lig -u

USAGE :
CXdiv_lig [-p] [-m] [-t<type,type,...>] [-T<type,type,...>] [-f<fsel>] carte couche

PARAMETRES :
-p : precise si la carte/couche est une vue en plan ou un profil.
-m : precise le mode de division
    0 : division des lignes en tous points
    1 : division des lignes en tous points util > 1
    2 : division des lignes en tous points de types specifiques
-t<type,type,type,...>: precise les differents types des elements a recuperer (au maximum 10 types
peuvent etre definis)
-L : pour conserver les liens alpha
-T<type,type,type,...>: precise les differents types des points a considerer
-f<fsel> : demande le nom du fichier de selection contenant les lignes a diviser aux noeuds.
-Z<"xmin ymin xmax ymax">: precise,au moyen de ses extremes,la zone contenant les lignes a
diviser.
carte : demande le nom de la carte.
couche : demande le nom de la couche traitee.
$

```

5.4.9.5 CXclean_lig

This program uses a CISAM file (/tmp/file1.dat and /tmp/file1.idx) containing all the lines of the database as a quad-tree. It projects the points of the lines onto the lines distant by a value smaller than accuracy.

Usage (option -u) :

CXclean_lig [-p] [-P <P_precision>] [-T <T_precision>] -F <nom_fichier_CISAM> <nom_carte> <nom_couche>

List of parameters to be encoded:

-p	If the processed map/layer is a profile.
-P <P_precision>	Defines the distance to the line (by default: 0.01 meter).
-T <T_precision>	Defines the distance to the points of the line used for specific cases (by default, it is equal to the accuracy given by P).
-F <nom_fichier_CISAM>	Defines the name of the CISAM file created by CXtoQuad.
<nom_carte>	Name of the processed map.
<nom_couche>	Name of the processed layer.

i See also /Winstar/Winstar/usage/F/cxclean_lig

```
C:\>sh
$ cxclean_lig -u
cxclean_lig: illegal option -u
? : option non reconnue
Usage: clean_lig [-p] [-P<precision>] [-T<precision2>] -F<isam_file> carte couche
$
```

5.4.9.6 CX_all_surf

Usage (option -u) :

CX_all_surf [options] <nom_carte> <nom_couche>

List of parameters to be encoded:

-s <type_surface>	Type of the surfaces to be created.
-l <type_ligne>	Type of the link lines between blocks.
-c <type1>	Used to have the job done only on the lines of type <type1> (simplified selection).
-f <fsel>	Used to have the job done on the lines contained in the fsel selection.
-r	Retrace of current carto after surfaces created.
-i	Information on how the process is doing.
-d	Enables debug mode (set -x).
-T	d/f/i creates surfaces of type d (départ ("start" in French)) to f (fin ("end" in English)) by increment of i.
<nom_carte>	Name of the processed map.
<nom_couche>	Name of the processed layer.

i See also /Winstar/Winstar/help/F/cx_all_surf

```
C:\>sh
$ cx_all_surf -u

NAME
cx_all_surf [-Options] carte couche

DESCRIPTION
Ce module est une macro-procedure qui cree toutes les surfaces ainsi que leurs ilots sur tous les contours fermes d'une couche.
```

Il ne tient pas compte de surfaces existantes et la couche ne devrait idéalement pas contenir de surfaces (sauf option -c et -f)

OPTIONS

- s <typ surf> Type a attribuer aux surface a creees
- l <typ lig> Type a attribuer aux lignes de liaisons entre les ilots
- c <typel,type2,...,typen> Permet de ne demander le travail que sur les lignes de type <typel type2 ... typen> (selection simplifiée)
- f <fsel> Permet de ne demander le travail que sur les lignes contenue dans la selection fsel

OPTIONS COMPLEMENTAIRES

- F Fusion des lignes avant l'execution
- P "p/l/c" Les surfaces seront creees sur les paralleles aux contours et a la distance specifiée dans le parametre largeur de chaque ligne. Cette option peut servir a créer les ilots de batiments sur base des axes de voiries par exemple
p, l = type de point et de ligne pour le contour des ilots
c = coefficient multiplicateur de la largeur
- r Retrace du carto en activite apres creation des surfaces
- i Information sur le deroulement du processus
- 2 Redemarrage du processus A la phase 2
- S size Permet de specifier une taille des tableaux superieure lors du traitement de grandes couches actuellement, size = 40000 (+/- 40000 lignes)
- d active le mode debug (set -x)
- T "d/f/i" Cree des surfaces de type de d à f par increment de i
- L Cree des surfaces dont le type est celui de la premiere ligne
- K <file> Fichier qui contiendra des messages d'erreur sur la creation
- O <file> Fsel des ig de surface creees
- R <type> En final,seules les surfaces de ce type seront creees
- G <file> Fichier des centroides pour les types ou Gestion d'objets
format du fichier : x y type categorie objet
- g Si -G -> force le type inscrit dans le fichier
- ge Si -G -> ne cree que si le centroide existe
- gl Si -G -> cree les liaisons imposees par le fichier
- z <type> Systeme qui modifie la surface existante de type <type> plutot que creation d'une nouvelle surface pour plusieurs types, mettre plusieurs -z <type>
-z 5 -z 8 -z 12 -z 20
- no_rm Ne supprime pas les fichiers temporaires
- u Cette aide

EXAMPLE

`cx_all_surf-s 5 -l 720 -i Liege parcelles`

REMARQUE

Il est obligatoire de laisser un espace entre l'option et la valeur

Exemple : `cx_all_surf-s 5 -l 720` et non `cx_all_surf-s5 -l720`

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§

5.5 DUPLICATING MAP/LAYER (sc_CXCopy)

5.5.1 Topic

Copy the content of a cartographic layer into another map.

This command is used for instance after `sc_CXCorg` to rename a map with the original map name.

5.5.2 Methodology

► Interfaced method

1. Enable the appropriate work session
2. In 'Start / Programs / **WinSTAR / CARTO WinSTAR / CARTO WinSTAR tools/ Copy Map-Layer**'
3. Customize the next dialogs
4. When the "Cartographic management" menu re-appears, the process is done.

► Manual method

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return,↵)
4. For on-line help, encode: **CXCOPY -u** (return,↵)
5. Adapt the syntax of the command according to the instructions of the on-line help.

i See also /Winstar/Winstar/usage/F/cxcopy

```
C:\>sh
$ CXCOPY -u

Usage : CXCOPY -s repertoire/carte/couche de la carte, ou de la couche a copier
      -d      repertoire/carte/couche de la carte, ou de la couche copiee
      [-E]   force l'effacement de la carte, ou de la couche destination
      [-p]   choix du profil
      [-K]   choix du serveur alpha
      [-l]   <OFF / ON / NEW> copie des liaisons
      [-u]   cet usage

Remarques :
  1. Afin d'utiliser le repertoire defini dans les options, remplacer 'repertoire' par '='
  2. Pour copier une carte entiere, remplacer le nom de la couche source par '*'.
  3. La copie des liaisons vers une nouvelle carte/couche ne peut etre executee que si les repertoires
      passes par les options -s et -d sont identiques !.
$
```

5.5.3 Don't forget

- § The **name of the destination map must be different from the original map.**
- § The name of the destination layer is optional. By default, it has the one of the original layer.
- § For the '**Link**' parameter :
 - § **ON** : **Links** of the original map/layer **moved** to the destination map/layer. The links of the original map/layer are lost.
 - § **OFF** : **Links not processed.** The existing links remain assigned to their original map/layer.
 - § **NEW** : **Links** of the original map/layer duplicated in the destination map/layer. Links are therefore operational on the original map/layer as well as on the destination map/layer.

5.6 MERGING OR SPLITTING MAP/LAYER (sc_CXsplit0)

5.6.1 Topic

WinSTAR enables you to distribute as you want data categories and types into different layers. But sometimes, this distribution is not properly done and the same type of information can be found in several layers.

In other cases, restructuring is necessary so that the distribution of the types of points, lines, circles, surfaces and texts respects a new methodology.

The tool is used to **do transfers of information between layers** and, in particular:

- § **Merging several layers into one sole.**
- § **Splitting one layer into several.**
- § **Transferring specific information from one layer to another.**

Another function of the tool consists in changing the type that characterizes some transferred information.

5.6.2 Methodology

5.6.2.1 Accessing tool

1. In 'Start / Programs / WinSTAR / tools / 'Layer splitting'
2. Customize the dialog

or

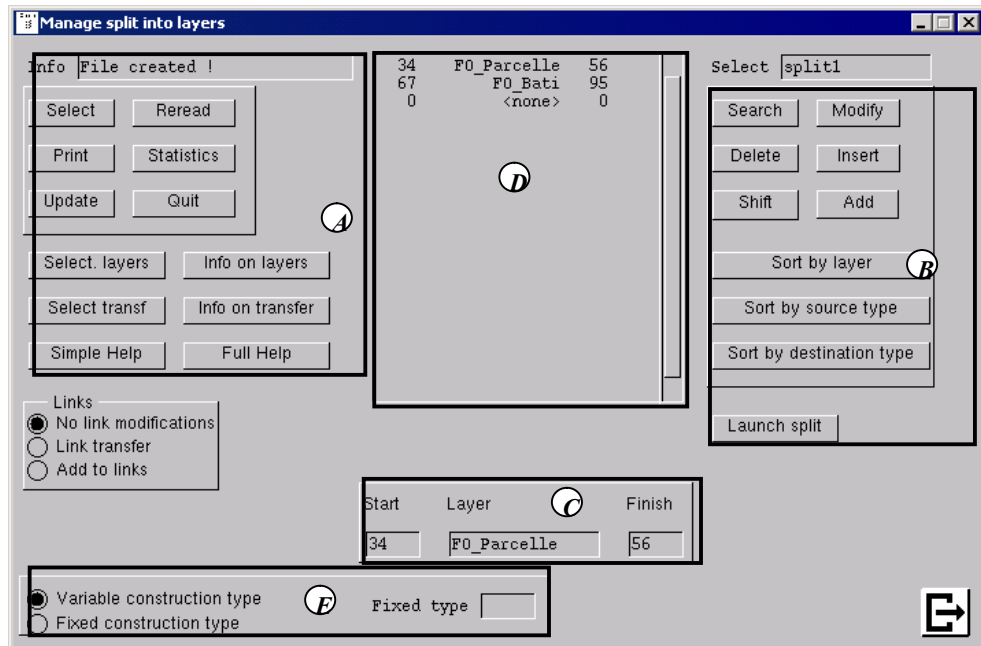
1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return-↓)
4. Encode : **CXsplit0** (return-↓)

i See also /Winstar/Winstar/usage/F/CXsplit1

5.6.2.2 Tool's functionalities

The tool appears as a dialog used to create all the categories of operations necessary to data transfers between the layers of one same map and, in particular:

- § **Defining transfer files.**
- § **Selecting the layers to be processed.**
- § **Selecting the graphic natures to be processed.**
- § **Doing the transfers.**



§ (A) : The buttons on the left are used to **select the transfer files, the graphic natures and the layers to be processed.**

§ (B) : The buttons on the right are used to **modify the transfer files and to do the processes.**

§ (C) : the text boxes at the bottom of the screen are used to **create the lines of transfer files.**

- § (D) : The central table is used to **visualize the lines of the transfer file being input or modified.**
- § (E) : The options at the bottom of the dialog are not used for the moment.

Select	Used to select a transfer file to be modified or printed.
Edit	Used to display in the central table of the dialog, the lines of the selected transfer file.
Print	Prints the selected file.
Statistics	Gives the list of the types of information concerned by the file.
Update	Saves the file with the name encoded in the top right corner of the dialog.
Quit	Closes the application.
Select layers	Used to select a group of layers of a map to be processed.
Info on layers	Displays the list of selected layers.
Select transf	Used to select the 5 transfer files related to the 5 graphic natures (Point, Line, Circle, Surface, Text). i The same file can be activated for the 5 categories (graphic natures). It is not necessary to select a file for each graphic nature. In that case, they will not be transferred.
Info on transfer	Displays the list of the 5 categories and information on how the transfer will be done.
Search	Used to rapidly find the line of the file whose type corresponds to the one encoded in the field at the bottom of the dialog.
Modify	Used to modify a line selected in the central table by replacing it with the information found in the fields at the bottom of the dialog.
Delete	Used to delete from the transfer file a line already selected in the table.
Shift	Used to move a transfer line.
Insert	Used to add a line after a line selected in the table.
Sort ...	Used to sort the transfer file according to any of the 3 criteria.
Launch split	Used to transfer the information between layers. This process is possible only if the operator has already: § Selected the layers (unlocked, cf. § 5.6.3 Don't forget on page 57). § Selected the transfer files
Stop split	Aborts the transfer. This function should not be done as inconsistent data layers might result.

5.6.2.3 Operating mode

The first operation consists in defining the transfer files. This is done via the creation of new files or the modification of existing files.

1. Click '**Select**'.
2. Choose the file, then '**Edit**'.
3. When the file is correct, click '**Update**'. (If transfer files are correct, you don't need to edit them).
4. Select the original layers out of which data is extracted: '**Select Layers**'.
5. Select the transferred categories and the file used to control this transfer '**Select Transf**'.
6. Finally, start '**Launch Split**' to start the transfer.

5.6.2.4 Transfer file in detail

To organize data transfer between layers, the operator defines procedures in the form of 'Transfer files'.

A 'transfer file' is used to define once and for all the way data types are distributed in the map's layers.

The same transfer file can be used to process the data transfers of all categories (Point, Line, Circle, Surface, Text).

For specific graphic natures, it is not necessary to specify any transfer file. In that case, the data categories concerned will not be transferred to other layers.

A transfer file is a 3-column table:

<i>Data type or Start type</i>	<i>New layer or Destination layer</i>	<i>New type or Destination type</i>
245	VOIRIE	12

This example means that all the data of type 245 will be transferred into the 'VOIRIE' layer and will now have the type '12'.

So, a transfer file is made of an indefinite number of lines expressing transfer rules.

<i>Start. type</i>	<i>Dest. layer</i>	<i>Dest. type</i>
245	VOIRIE	12
2	VOIRIE	2
18	CADASTRE	15

The tool will react differently according to the values of the 'Layer' and 'Destination type' fields of this line:

One sole line of the transfer file may represent the characteristic of **having the starting type equal to 0**. This line has a **very important role** in the transfer.

<i>Start. type</i>	<i>Dest. layer</i>	<i>Dest. type</i>	<i>Comments</i>
0	Couche_x	0	§ In that case, all the information whose type does not appear in the first column in the transfer file will go into the couche_x en and will keep its original type . § If the transfer file only contains this line, all the information of several layers will be gathered in one sole (couche_x).
0	Couche_x	18	In that case, all the information whose type does not appear in the first column of the transfer file will go into the couche_x en and will have a new type (18 in the example) .
0	<none>	0	In that case, all the information whose type does not appear in the first column of the transfer file will be transferred nowhere and, therefore , will not appear in the destination layers .
5	divers	7	When a transfer file contains several lines presenting the same starting type , the last line only is taken into account .
5	divers	9	

5.6.3 Don't forget

§ **Locking** : The program of splitting into layers writes the information read in a group of layers into other layers. This operation is done only if the program could lock the whole destination layer for its own purpose. Otherwise, the program won't be able to do the transfer.

That is why destination layers must be unlocked for the transfer.

§ **This tool can not be used to transfer information from layers belonging to different maps**. In such a case, there will be as many operations of splitting into layers as there are starting layers.

§ **We recommend you not to split any map into more than 50 layers**.

§ Note that the information already existing in a destination layer is not modified, nor is its existence checked. **Splitting consists in adding information, not replacement**.

§ **You should not try to transfer information from one layer to itself**.

- § The definition of the data transfer is stored on the PC's drive as 'transfer file'. The operator may regularly do the same data transfer processes between layers by choosing the splitting files for each graphic nature of element.
- § Cxsplit1 splits information per command line.
CXsplit1 : Splitting carto layers into other layers.

```
C:/>sh
$ Cxsplit1 -u
```

NAME
CXsplit1 : Eclate des couches carto en d'autres couches

usage:
CXsplit1 [trans_file] -Dcarte_depart -Acarte_arrivee couche1 couche2...
[trans_file] = -p<pt_trans> -l<lg_trans> -s<su_trans> -t<tx_trans> -c<ce_trans> -f<co_trans> -g<bl_trans>
pour spécifier le fichier de transfert pour chaque classe
ou -a<any_trans> pour toutes les classes
Le chemin complet est autorisé pour un fichier ne se trouvant pas à l'endroit normal

PARAMETRES OBLIGATOIRES
-D<carte dep> carte depart
-A<carte arr> carte arrivee

GESTION DE ZONE
-C"x1 y1 x2 y2" permet d'imposer l'éclatement dans une zone de la carte

GESTION DES NOMS
-b<Fixe> ce terme Fixe sera préfixé ou postfixé aux noms existant
-v<inc> valeur de l'incrément à ajouter aux noms existants(defaut=1)
-m mode utilisé pour la modification des noms
-m0 FixeNom
-m1 NomFixe
-m2 Fixe/Nom
-m3 Nom/Fixe
-m4 FixeNom+inc
-m5 Nom+incFixe
-m6 Fixe/Nom+inc
-m7 Nom+inc/Fixe
Les option -b et -v sont actives selon le mode
Nom+inc signifie que le nom sera incrémenté de la valeur donnée en -v

PARAMETRES SECONDAIRES
-G<delta> Généralisation des lignes
-S<file> fichier des types inamovibles
-n pour ne pas créer de carte résultat
-i pour cacher l'évolution normale du programme
-d pour montrer l'évolution interne (debug)
-e option qui masque les messages d'erreurs
-z pour obtenir des statistiques
-o ne pas détruire les isam split file
-L pour conserver les liens alpha
-h cette aide
-P<num_logiciel>
num_logiciel = 1 si carto
= 2 si techno
= 3 si star_cad
Par défaut : carto

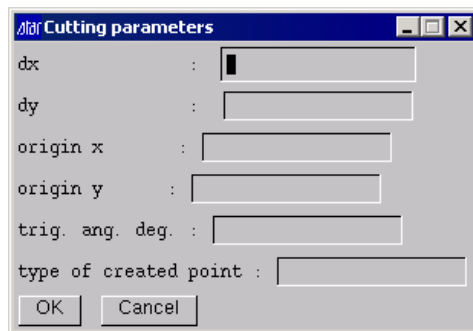
5.7 CUTTING LAYER INTO TILE

5.7.1 Topic

The 'Cut' tool enables the user to **cut a layer into a group of tiles** according to parameters s/he has defined. The program generates, in a new map, as many layers as there are tiles.

5.7.2 Methodology

1. Enable the appropriate work session
2. Unlock the layer to be processed
3. Create a system window (on PC, open a 'Command prompt')
4. Encode: **sh** (return↵)
5. Encode: **cut** (return↵)
6. In the next dialog, **choose the map/layer** to be cut (click End selection' for validation)
7. In the **options dialog**, encode your values for **parameters**:



dx : Sizes of horizontal (dx) and vertical (dy) frames (in meters).

dy

origin x : Cutting's origin: coordinates (x,y) of the bottom left corner.

origin y

type of created point : Type of the points resulting from the intersection of the original lines with the frames.

8. Encode the name of the destination map.
9. The process starts automatically and runs on its own.

5.7.3 Don't forget

§ The graphic information is processed as following:

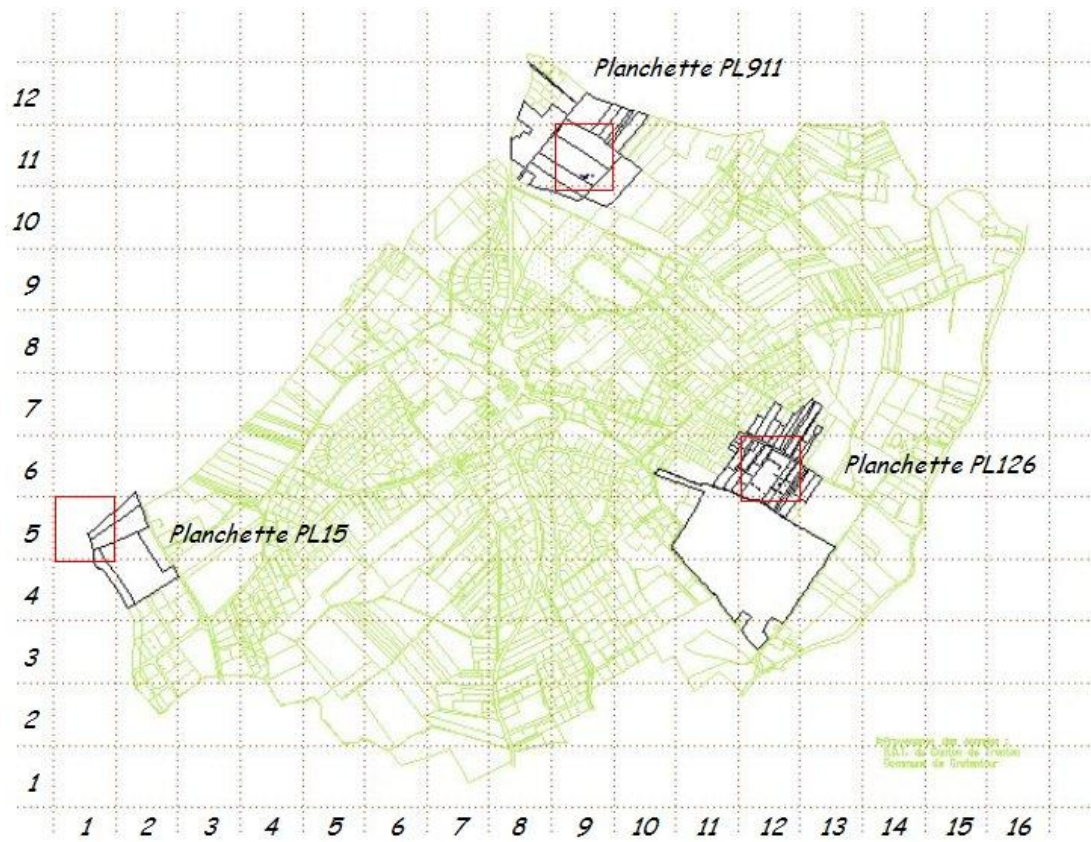
Point	Each point is sent to the corresponding tile.
Line	Lines of the original layer are divided and cut according to the tiles' frames.
Circle	Circles are transferred into the tile that contains their center.
Surface	The Surfaces that are not entirely excluded from a frame are transferred into the tile corresponding to this frame.
Text	Texts are transferred into the tile that contains their original point.

§ **Only the tiles containing graphic data are created.**

§ The number of created tiles depends at the same time on the maximal extension of the processed layer and the size of the horizontal and vertical frames. The **n x m tiles** are **numbered** and **called according to** the order shown in the following table:

tl 1 m				tl n m
...		
...		
...		
tl 12	tl 22	tl 32

tl 11	tl 21	tl 31	...	tl n 1
-------	-------	-------	-----	--------



CHAPTER 6: LEGEND

6.1 INTRODUCTION

This chapter presents a few tools used to process the legend such as duplication and reorganization.

6.2 DUPLICATING LEGEND (DUP_LEG)

6.2.1 Topic

The '**dup_leg**' program enables the user to **duplicate legends** including symbol tables.

6.2.2 Methodology

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **dup_leg** (return↵)
5. In the next dialog, **encode the name of the source legend** (STANDARD by default) (click 'OK' for validation)
6. In the next dialog, **encode the name of the destination legend** (VARIANT by default) (click 'OK' for validation)
7. If the destination legend already exists for any graphic nature, the user will be asked whether s/he wants to overwrite or not.
8. The rest of the procedure is automatic.

6.3 REORGANIZING LEGEND (sc_reorg_leg)

6.3.1 Topic

As explained by its name, the '**sc_reorg_leg**' tool enables the user to **reorganize a legend with better performance and smaller size**.

6.3.2 Methodology

1. Enable the appropriate work session
2. Create a System window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **sc_reorg_leg <legend_name>** (return↵)

```
C:\>sh
$ sc_reorg_leg FRONTON
cote/FRONTON
ligne/FRONTON
tar: blocksize = 20
point/FRONTON
tar: blocksize = 20
surface/FRONTON
tar: blocksize = 20
symbole/FRONTON
tar: blocksize = 20
texte/FRONTON
```

```

tar: blocksize = 20
tar: blocksize = 20
-rwxrwxrwa 1 0 0 187      Sep 16 16:51 cote/Fronton.sdr
-rwxrwxrwa 1 0 0 6202     Sep 16 16:51 cote/Fronton.spg
-rwxrwxrwa 1 0 0 5797     May 12 2003 ligne/Fronton.sdr
-rwxrwxrwa 1 0 0 205932   May 12 2003 ligne/Fronton.spg
-rwxrwxrwa 1 0 0 7205     Sep 15 20:22 point/Fronton.sdr
-rwxrwxrwa 1 0 0 217116   Sep 15 20:22 point/Fronton.spg
-rwxrwxrwa 1 0 0 5841     Sep 16 17:22 surface/Fronton.sdr
-rwxrwxrwa 1 0 0 220704   Sep 16 17:22 surface/Fronton.spg
-rwxrwxrwa 1 0 0 7513     Apr 3 2003 symbole/Fronton.sdr
-rwxrwxrwa 1 0 0 48050    Apr 3 2003 symbole/Fronton.spg
-rwxrwxrwa 1 0 0 3333     Sep 17 11:34 texte/Fronton.sdr
-rwxrwxrwa 1 0 0 113400   Sep 17 11:34 texte/Fronton.spg
Mon Dec 1 09:40:17 Edl 2003

Archive of your legend are located in $BASENAME_LEGENDE/legende/tar
1. You should check the content of your legends
2. If your legends are correct, remove the archive files
If not restore them from the archives files
$

```

6.4 REORGANIZING LEGEND (CXTO_LEGENDE)

6.4.1 Topic

The '**cxto_legende**' tool enables the user to **query** and/or to **reorganize legends** according to the options given to the command.

6.4.2 Methodology

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. For on-line help, encode : **cxto_legende -u** (return↵)
5. Adapt the syntax of the command according to the instructions of the on-line help.

i See also the files :

```

$ /Winstar/Winstar/help/F/cxto_legende
$ /Winstar/Winstar/usage/F/cxto_legende

```

```

C:\>sh
$ cxto_legende -u

NOM
cxto_legende [-u] [-Options]

DESCRIPTION
Module d'informations/reorganisation des legendes

OPTIONS POUR LA REORGANISATION DES TYPES ET TRANSFERTS
-v<i>          valeur de l'increment a ajouter au type traite
-a           traite toutes les valeurs de la legende origine
-n<type>      traite uniquement le type specifie de la legende origine
              (plusieurs options -n possibles, mais option -v obligatoire)
-b type1.type2 traite les types dans l'intervalle type1 a type2
-f<file>     specifier le nom du fichier de conversion a utiliser
-Rrep1.rep2  transferer la representation de rep1 vers rep2.

```

-M *cle.data* modifier les parametres
 <cle> est un des mots cles definis dans un fichier d'aide sous help/F/cxto_legende
 On peut avoir plusieurs mots cles qui se suivent, par exemple
 -M"ECH_MIN.500000" -M"FCOLOR.2" -M"LTYPE.5" ...
 -e<min.max> modifier l'echelle min-max de la nouvelle representation
 -i imprime des informations sur l'avancement
 -d<leg_des> legende destination

Une des options -a, -n ou -b doit etre presente.

REMARQUE

Si des representations existent deja dans la legende destination, elles sont ecrasees sans demande de confirmation

OPTIONS POUR LES LISTINGS ET INFORMATIONS

-D1 liste les legendes disponibles pour une classe donnee
 -l liste les types contenus dans la legende origine (ou symbole si legende symbole)
 -I<mode> liste les informations contenues dans la legende origine
 -I1 type descriptif intitule (nom pour les symboles)
 -I2 type descriptif
 -I3 type intitule
 -I4 type intitule plume_princ. plume_sec. trait ech_min ech_max, rotation dim_min dim_max, symbole (selon classe d'element)
 -I5 complet (toutes les informations de la legende dans l'ordre correspondant aux dialogues de creation de legende)

Pour les SYMBOLES, les options 1 a 3 donnent simplement la liste, et l'option 4 donne la representation du symbole

-e<echelle> rechercher pour une echelle donnee
 -j<type> specifier le numero de l'element a traiter (si j n'est pas specifie ou si j<0, on traite tous les types)
 -y<sep> donne le caractere separateur
 -E <leg_pts> sortir seulement les symboles utilises par les points de la legende donnee (avec option -Y)

OPTIONS GENERALES

-P pour une legende POINT
 -L pour une legende LIGNE
 -S pour une legende SURFACE
 -T pour une legende TEXTE
 -C pour une legende COTE
 -Y pour une legende SYMBOLE
 -h affiche l'usage de ce module
 -u affiche l'usage de ce module
 -F <rep> Indique dans quel repertoire se trouve la legende
 Cette option permet de ne pas utiliser les variables d'environnement de STAR
 -R <repres> choisir la representation (1 a 5, default 1)
 -o<leg_ori> legende origine

EXAMPLES

1. Pour obtenir la liste des types de la legende POINT "STANDARD"
 cxto_legende -o STANDARD -P -l
2. Pour obtenir la liste des types, descriptifs et intitules de la legende "STANDARD"
 cxto_legende -o STANDARD -P -I1
3. Pour obtenir le type, descriptif et intitule du type 103 de la legende "STANDARD"
 cxto_legende -o STANDARD -P -I1 -j103
4. Pour obtenir la liste des legendes LIGNE

```

cxto_legende -L -D1

5. Pour convertir une legende SURFACE contenant des types doubles en une legende propre
cxto_legende -S -a -v0 -o legende_doub -d legende_prop

6. Pour dupliquer une legende POINT
cxto_legende -P -a -v0 -o legende_1 -d legende_2

7. Pour obtenir la liste des symboles de la legende "STANDARD" utilises dans la legende points
"STANDARD" (supprimer les symboles non utilises)
cxto_legende -o STANDARD -Y -I4 -E STANDARD

8. Meme chose mais seulement les noms des symboles (liste de gauche a droite)
cxto_legende -o STANDARD -Y -I -E STANDARD

9. Meme chose mais la liste du haut en bas
cxto_legende -o STANDARD -Y -I1 -E STANDARD

VOIR AUSSI
Fichier d'aide sous help/F/cxto_legende
$

```

6.5 CONVERTING LEGEND (SC_CONV_TYPE)

6.5.1 Topic

The functions of this tool are to :

- § enable the user to **transformer a legend**.
- § **modify the types** of points, lines, surfaces and texts **used for any layer of a map**.

The way this tool works consists in two optional steps :

- § 1st step : Transforming legend
- § 2nd step : Modifying map/layer.

6.5.2 Methodology

6.5.2.1 Creating conversion tables

The role of these tables is to establish correspondence between the types of the original legend and the types of the destination legend.

These **tables** must be created in **/users/star_ux/legende/conversion**. **Their names must be:**

- § **point** : conversion of types of points
- § **line** : conversion of types of lines
- § **surface** : conversion of types of surfaces
- § **text** : conversion of types of texts

► Creating conversion table of types of points :

In the point file editor, encode in 2 columns the values of the types of points.

- § **1st column** : starting types
- § **2nd column** : destination type

Reminder : name of conversion table : **point**

► Creating conversion table of types of lines :

In the point file editor, encode in 2 columns the values of the types of lines.

- § **1st column** : starting types
- § **2nd column** : destination type

Reminder : name of conversion table : **line**

- ▶ **Creating conversion table of types of surfaces :**
In the point file editor, encode in 2 columns the values of the types of surfaces.
§ **1st column : starting types**
§ **2nd column : destination type**
Reminder : name of conversion table : surface
- ▶ **Creating conversion table types of texts :**
In the point file editor, encode in 2 columns the values of the types of texts.
§ **1st column : starting types**
§ **2nd column : destination type**
Reminder : name of conversion table : text

6.5.2.2 Transforming legend (1st step)

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **sc_conv_typ** (return↵)
5. In the next dialog, encode :
 - § in '**origin**' field, the name of the legend to be transformed
 - § in '**destination**' field, the name of the legend resulting from the transformation
6. Click 'OK' for validation (or 'Cancel' for not executing the 1st step)
7. In the next dialog, **enable the graphic natures** (Point, Line, Surface, Text, ...) of the types of legends **to be converted**:
8. Click 'OK' for validation (or 'Cancel' for not executing the 1st step)

- i** After the transformation, the Origin legend hasn't been modified.

6.5.2.3 Modifying map/layer (2nd step)

9. In the next dialog, **choose the categories of elements to be transformed** by the conversion tables.
10. In the next panel, **select the map/layer to be modified**.
11. Click 'Select layer' for validation (or 'Abort' for not executing the 2nd step)
12. In the last dialog, **encode the name of the destination map/layer** of the modification.
13. Click 'OK' for validation (or 'Cancel' for not executing the 2nd step)

- i** If no name of Destination map/layer of the modification has been encoded, the result of the modification will be transferred into the Origin map/layer.

6.5.2.4 Non consecutive executions of steps 1 and 2

As two steps constitute the procedure of this tool, these can be executed separately:

- ▶ **Execution of 1st step only**
Answer : 'Abort', 'Cancel' in the panels of the 2nd step
- ▶ **Execution of 2nd step only**
Answer : 'Cancel' in the dialogs of the 1st step

6.6 VISUALIZING LEGEND (star_leg)

6.6.1 Topic

The '**star_leg**' command is a **tool used to visualize the legend**.

6.6.2 Methodology

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return-↵)
4. For on-line help, encode : **star_leg -u** (return-↵)
5. Adapt the syntax of the command according to the instructions of the on-line help

i See also /Winstar/Winstar/usage/F/star_leg

```
C:\>sh
$ star_leg -u

NOM
star_leg [-u] [-Options] [-Parametres]

DESCRIPTION
Module de visualisation de legende

OPTIONS
-s<legende> legende des symboles
-w<larg> largeur du pixmap (par defaut 32)
-h<haut> hauteur du pixmap (par defaut 22)
-x"x y" position en x y du panel (par defaut 100 100)
-n<nb> nombre d'icomes visibles (par defaut 14)
-m<nb> taille maximum des chaines de carac. (par defaut 50)
-f<file> fichier ascii contenant les types a afficher et une description (cf exemple ci-dessous)
-B<commande> callback sur item selectionne, recoit la ligne et son num. en parametre
-T<titre> titre de la fenetre
-a n'affiche pas la classe representee
-i<mode> mode de visualisation
  -i0 seulement les icomes (par defaut)
  -i1 icomes + numeros de type STAR
  -i2 icomes + numeros de type STAR + descriptifs de la legende

PARAMETRES
-l<legende> nom de la legende
-c<classe> classe a visualiser
  -cP POINT
  -cL LIGNE
  -cS SURFACE
  -cC CERCLE

REMARQUE
En sortie, on renvoie le numero du type

EXAMPLES
1. Pour afficher les types de la legende point STANDARD
star_leg -cP -ISTANDARD

2. Pour afficher une liste de types de surface de la legende STANDARD avec une description enregistres
dans un fichier "liste"
star_leg -ISTANDARD -cS -f/tmp/liste

Le fichier "liste" doit contenir des lignes au format suivant :
<type legende STAR> <descriptif>
<type legende STAR> <descriptif>
$
```

6.7 MULTI-LEGEND (assoc_leg)

6.7.4 Topic

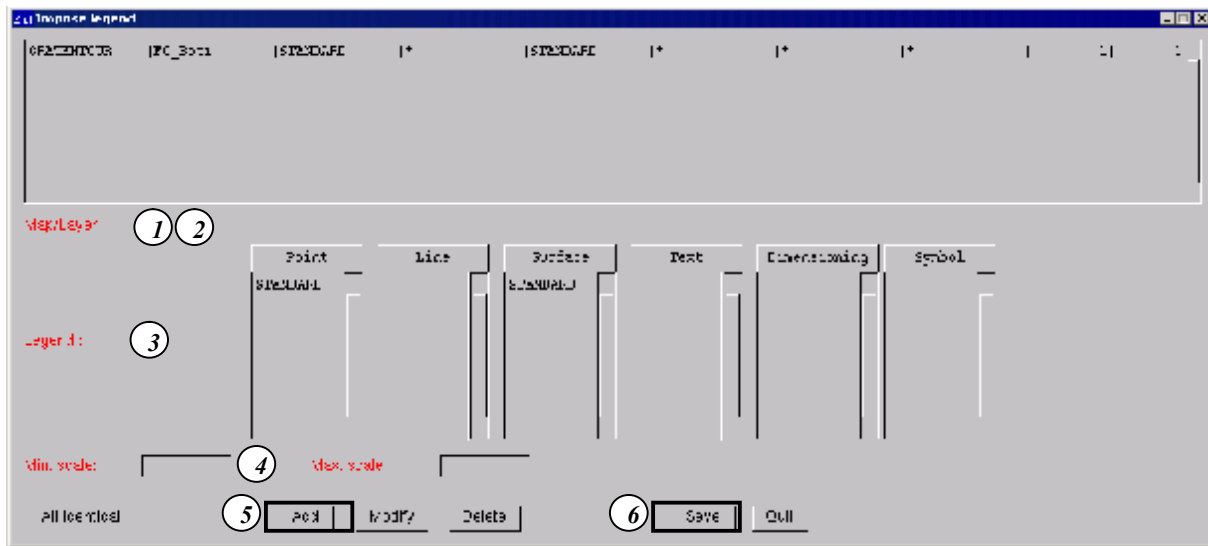
The 'assoc_leg' dialog enables the user to **use one or several legends on screen as well as plan plotting.**

6.7.2 Methodology

6.7.2.1 Accessing tool

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **assoc_leg** (return↵)
5. Enter your parameters in the next dialog.


i See also **WinSTAR on-line help** (/Winstar/Winstar/help/GB/Winstar.hlp), 'Index' tab, theme 'LEGEND (Associating ...)' theme.



6.7.2.2 Tool's functionalities

The proposed dialog enables the user to **impose a legend on one or several maps as well as on one or several layers.** The **legend imposed on a layer can be different according to the type of graphic data** (points, lines, surfaces, texts, dimensions, symbols).

When the graphic editor starts running (WinSTAR), all layers are drawn according to the legends imposed.

In WinSTAR, in the 'Select legend'  dialog, the **legends given in the association file appear in green.**

The default legend (that is the one used to draw layers whose imposition is not necessarily given) is selected in the list with the same use as before (or imposed with the variable of the 'LEGENDE' table).

In case of change of active layer, the legend possibly imposed on that layer becomes the default one.

6.7.2.3 Operating mode

- ▶ **Creating association :**

1. In the next dialog box, **click at the right side** of the ‘**Map/Layer**’ text to open a new “Select” dialog box to select a map/layer in a pull-down list (1).
2. **Select a map/layer** in the list or **encode ‘*’** in any of the text boxes under the lists and click ‘**Select Layer**’ for **validation** (2).
3. **Choose the legend for all the types of graphic data** (points, lines, surfaces, texts, dimensions and symbols) (3).
4. **Encode, if necessary, a minimal and maximal display scale.** Beyond those limits, the legend is no longer imposed (4).
5. **Click ‘Add’** so that the “encoded” line appears in the list of plan(s)/layer(s) on which the legend is imposed (5).
6. **Click ‘Save’** to save the **association file**(6).

► **Modifying association :**

1. In the legend association dialog box, **select the line presenting the association to be modified.**
2. **Modify the fields concerned.**
3. Click ‘**Modify**’ to **update the line.**
4. Click ‘**Save**’ to save the new **changes.**

6.7.3 Don’t forget

The legend associated to a layer is defined according to the following imposition priorities:

- § **Priority 1 :** The **names of the map and of the layer are given.**
Ex : GRATENTOUR/Fo_Bati
- § **Priority 2 :** The **name of the map is given** and the **character ‘*’** is used in the field corresponding to the **layer.**
*Ex : GRATENTOUR/**
- § **Priority 3 :** The **character ‘*’** is used in the field of the **map** and the **name of the layer is given.**
*Ex : */Fo_Bati*
- § **Priority 4 :** The **character ‘*’** is used in the fields corresponding to the **map** and to the **layer.**
*Ex : */**

The **character ‘*’** means that the **corresponding field is not given.**

Also, if the surface legend is ‘’, this means that the surfaces of this layer will be drawn with the default legend.*

Click ‘**Add**’ to **add** to the list an **association coming from the modification** of a **line** selected **without modifying it.**

Click ‘**Delete**’ to **delete an existing association** from the list.

The association of legend is effective for a specific session.

The association file has the name of the session. This means that those who use the data from the same server with the same name of session will see the information according to the associated legends. But those who use the data from the same server and who have enabled a session of another name will not necessarily see the information according to the associated legends because the association file is different.

6.8 INTERACTION ON STAR LEGENDS (cx5_legende)

6.8.1 Topic

The ‘**cx5_legende**’ command is an interaction module on STAR legends.

6.8.2 Methodology

1. Enable the appropriate work session
2. Create a system window (on PC, open a ‘Command prompt’)
3. Encode : **sh** (return-↵)

4. For on-line help, encode : **cx5_legende -u** (return-1)
5. Adapt the syntax of the command according to the instructions in the on-line help

i See also /Winstar/Winstar/usage/F/cx5_legende

```
C:\>sh
$ cx5_legende -u

NOM
cx5_legende [-u] [-Option]

DESCRIPTION
Module d'interaction sur les legendes Star

OPTIONS
-gl          obtenir les noms de legendes actives des classes d'elements
-sl          forcer le nom de la legende active d'une classe d'element (classe donnee avec option -
            PLSTYQ)
-t<type>    forcer la representation pour un type (avec option -PLSTY)
            si <type> est negatif, on force tous les elements de la legende active a la representation.

MODIFICATION DYNAMIQUE DE LA REPRESENTATION
-D"base nb_class mode mask"    specifier dynamiquement la representation dans la legende
    base = numero du type de base de la legende
    nb_class = nb de classe binaires
    mode = action a realiser
    mask = nb binaire servant de mask pour selectinner les types

    Si mode =0 -> cache les types specifiees + montre autres
    1 -> montre les types specifiees + cache les autres
    2 -> cache les types specifiees
    3 -> montre les types specifiees
    4 -> cache tous les types
    5 -> montre tous les types
-c<classe>  classe active (P,L,S,T,Q)

OPTIONS COMPLEMENTAIRES
-N<nom>     nom du carto a adresser (facultatif)
-y <separateur> pour le separateur
-o <option>  pour des options particulieres
            FULL_PATH  pour obtenir le nom des legendes avec chemin d'accès
            NO_PATH   pour obtenir le nom des legendes sans chemin d'accès
-P <option>  pour la legende point
-L <option>  pour la legende ligne
-S <option>  pour la legende surface
-T <option>  pour la legende texte
-Y <option>  pour la legende symbole
-Q <option>  pour la legende cote
            <option> est le nom de la legende si un nom est necessaire (avec option -sl)
            <option> est une representation si (avec option -t)
representation : -2  = NON_DESSINE
                -1  = DESSINE
                0..4 = Representation de 1 a 5

-u          affiche l'usage de la commande

EXAMPLES
1. Pour obtenir le nom des legendes actives pour les differentes classes d'elements
cx5_legende -o NO_PATH -gl

2. Pour imposer la legende MRW aux lignes et la legende STANDARD aux points
```

```
cx5_legende -L MRW -P STANDARD -sl
```

3. Pour que le type 5 soit NON_DESSINE

```
cx5_legende -t5 -P-2
```

4. Pour que tous les types points de la legende active soient non dessines

```
cx5_legende -t-1 -P-2
```

```
$
```

6.9 DELETING ALL TEXT LABELS

6.9.1 Topic

As from WinSTAR 9.5, a **label may automatically overlay specific text types**. This is due to the fact that the fields used for the definition of these labels already have values. That is why it is necessary to **“clean” the text legend** with **cxto_legende** available in V9.5 (cf. § '6.4 Reorganizing legend' on page 62).

6.9.2 Methodology

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode (let's say that the name of the legend to be cleaned is STAR : **cxto_legende -R 0 -T -a -o STAR -d STAR -M "P.0"** (return↵)

i If you have **many text legends to be modified**, use the script **legtxt95** (it also saves it)

6.10 PRINTING LEGEND

6.10.1 Topic

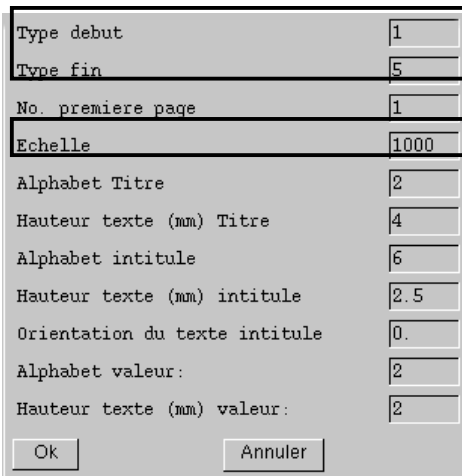
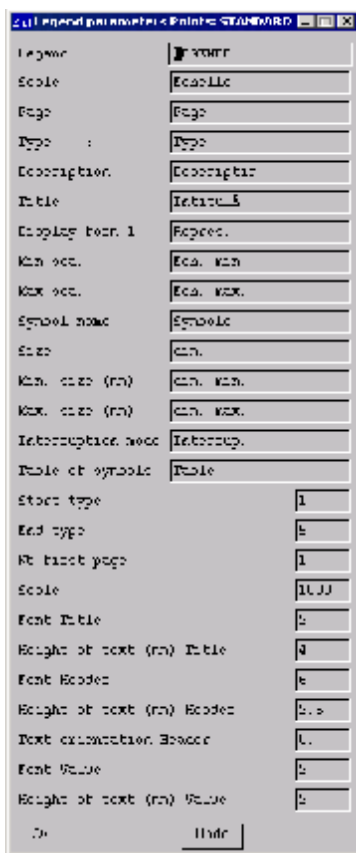
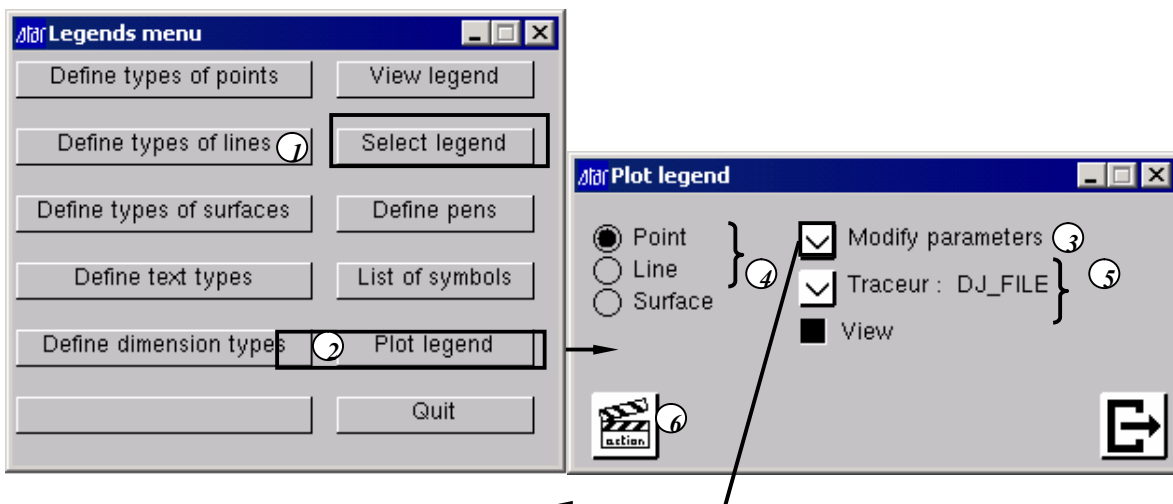
It is sometimes useful and/or necessary to print the legend in order to have a complete paper document used to consult the legend types more globally than with WinSTAR's legend editor.

It is possible to **print at a specific scale the legend of Points, Lines and Surfaces as a preconfigured table** in A4 landscape format.

6.10.2 Methodology

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **cxleg** (return↵)
5. In '**Legends menu**', click '**Select legend**' (1)
6. In the '**Select legend**' dialog, **select the legend of Points and/or Lines and/or Surfaces to print**. Click 'OK' for validation
7. Enable '**Plot legend**' tool in '**Legends menu**' (2)
8. Click '**Modify parameters**' (3)
In the next dialog, **modify the parameters according to your needs**.
9. In '**Plot legend**', select the **graphic nature** (Point, Line or Surface) **for which you want to print the legend** (4)
10. Before clicking '**Action**' to start the process, **enable either the symbolic plotter** to plot the legend **or** let the '**View**' option active for print preview of the 1st page (5)
11. Click '**Action**' key (6) to **execute the process** (print or on-screen visualization)

i The pen 1 in PLUME_FILE is used to print the legend. It will be therefore necessary to modify it punctually so that its color is logically black.



LEGENDE FRONTON Echelle 1/1000

LEGENDE	FRONTON	Echelle	1/1000	Code	MLL	ML	MLL	ML	Symbol	Propriété
	1	FRONTON	1	01	00000000	0	0	00	HI	
	1	FRONTON	1	02	00000000	1	0	00	HI	
	1	FRONTON	1	03	00000000	1	0	00	HI	
	1	FRONTON	1	04	00000000	2	0	00	HI	
	1	FRONTON	1	05	00000000	2	0	00	HI	
	1	FRONTON	1	06	00000000	2	0	00	HI	
	1	FRONTON	1	07	00000000	2	0	00	HI	
	1	FRONTON	1	08	00000000	2	0	00	HI	
	1	FRONTON	1	09	00000000	2	0	00	HI	
	1	FRONTON	1	10	00000000	2	0	00	HI	
	1	FRONTON	1	11	00000000	2	0	00	HI	
	1	FRONTON	1	12	00000000	2	0	00	HI	
	1	FRONTON	1	13	00000000	2	0	00	HI	
	1	FRONTON	1	14	00000000	2	0	00	HI	
	1	FRONTON	1	15	00000000	2	0	00	HI	
	1	FRONTON	1	16	00000000	2	0	00	HI	
	1	FRONTON	1	17	00000000	2	0	00	HI	
	1	FRONTON	1	18	00000000	2	0	00	HI	
	1	FRONTON	1	19	00000000	2	0	00	HI	
	1	FRONTON	1	20	00000000	2	0	00	HI	
	1	FRONTON	1	21	00000000	2	0	00	HI	
	1	FRONTON	1	22	00000000	2	0	00	HI	
	1	FRONTON	1	23	00000000	2	0	00	HI	
	1	FRONTON	1	24	00000000	2	0	00	HI	
	1	FRONTON	1	25	00000000	2	0	00	HI	
	1	FRONTON	1	26	00000000	2	0	00	HI	
	1	FRONTON	1	27	00000000	2	0	00	HI	
	1	FRONTON	1	28	00000000	2	0	00	HI	
	1	FRONTON	1	29	00000000	2	0	00	HI	
	1	FRONTON	1	30	00000000	2	0	00	HI	
	1	FRONTON	1	31	00000000	2	0	00	HI	
	1	FRONTON	1	32	00000000	2	0	00	HI	
	1	FRONTON	1	33	00000000	2	0	00	HI	
	1	FRONTON	1	34	00000000	2	0	00	HI	
	1	FRONTON	1	35	00000000	2	0	00	HI	
	1	FRONTON	1	36	00000000	2	0	00	HI	
	1	FRONTON	1	37	00000000	2	0	00	HI	
	1	FRONTON	1	38	00000000	2	0	00	HI	
	1	FRONTON	1	39	00000000	2	0	00	HI	
	1	FRONTON	1	40	00000000	2	0	00	HI	
	1	FRONTON	1	41	00000000	2	0	00	HI	
	1	FRONTON	1	42	00000000	2	0	00	HI	
	1	FRONTON	1	43	00000000	2	0	00	HI	
	1	FRONTON	1	44	00000000	2	0	00	HI	
	1	FRONTON	1	45	00000000	2	0	00	HI	
	1	FRONTON	1	46	00000000	2	0	00	HI	
	1	FRONTON	1	47	00000000	2	0	00	HI	
	1	FRONTON	1	48	00000000	2	0	00	HI	
	1	FRONTON	1	49	00000000	2	0	00	HI	
	1	FRONTON	1	50	00000000	2	0	00	HI	

CHAPTER 7: OBJECT MANAGEMENT

7.1 INTRODUCTION

This chapter gives some information to understand how alphanumeric data is organized.

It also presents a few tools to **manage and preserve consistency in the alphanumeric database**, such as deleting the links that have no form.

You will also find the list of the **tools used to update the elements automatically input** such as the G, F or A fields as well as labels.

7.2 ORGANIZING DATA AND STRUCTURES

7.2.1 RDBMS : Relational DataBase Management System

WinSTAR isn't linked to any specific RDBMS but connects to the DBMS used as source of attribute data. **A mechanism enables the dialog between WinSTAR and the RDBMS.** This type of communication is different according to the type of RDBMS and depends on the value set in the options of the session.

7.2.1.1 Oracle

It is necessary to:

§ **Have communication tools with the Oracle server** (SQL client).

§ **Define an ALIAS** (communication node using the address of the server and the name of the Oracle database).

§ Encode this information in the options of the session.

A process is now about to be started to enable WinSTAR to communicate with Oracle.

The name of this **process** is **cx4_server** and is **started on the client PC of the Oracle server** (unlike the cartographic data server which is the graphic data server and started only in the carto DB server).

7.2.1.2 Access

It is necessary to:

§ **Define an ODBC source** to connect to the Access file (communication node using the file name and its complete path).

§ Encode this information in the options of the session.

A process is now about to be started to enable WinSTAR to communicate with Access.

The name of this **process** is **cx4_odbc** and is **started in the client PC of the Access server** (unlike the cartographic data server which is the graphic data server and which is started only in the carto DB server).

7.2.2 Categories (or screen forms)

7.2.2.1 Object management's editor

The Object management's editor enables the user to create categories. A **category** is a **screen form used to navigate and manage records (forms) through the dialogs of the STAR solution.** In fact, the category is the **association 'screen form' and table in the RDBMS.**

A category is a **group of fields among which one or several constitute(s) the key** (value which makes a record unique compared to the others).

The Object management dialogs are based on a dialog between STAR and the RDBMS. The interface enables users to manage data while they don't need to learn the language of the RDBMS used.

The interface is universal regardless of the RDBMS used. Simply tell the system which type of RDBMS it has to use. This option is given in the screen forms.

7.2.2.2 Organization of attribute data

The **data** is **stored** in the tables managed by the **RDBMS**.

Screen forms are created by STAR. They are the forms through which the data of the RDBMS is displayed.

Screen forms are **ASCII files** stored in the directory mentioned in the options of the session ('Object management' tab).

These files may neither be edited nor modified because their structure is very strict. Any change done differently than by the category editor may make the category unusable.

The names of the categories created must respect the rules given by STAR and by the RDBMSs.

► STAR restrictions :

§ Restriction on category name:

§ The name of the category is a **maximum of 10 characters**.

§ The name of the category is written in **capital letters, no blank space nor particular character**. Only the underscore character (`_`) is allowed.

§ The name of the category **can not be the name of any of the link tables** (CATEGORIE, COMPTEUR, GRAPH, GRAP_ALP, OBJET, VUES).

§ Restriction on field name:

§ The name of the field must be rather simple.

§ The name of the field must be **one sole string of characters, no blank space nor particular character**. Only the underscore character (`_`) is allowed.

§ The name of the field **can not be TYPE** (restriction linked to thematic tools).

► ORACLE restrictions :

§ Restriction on category name:

The name of the category must be **one sole string of characters, no blank space nor particular character**. Only the underscore character (`_`) is allowed.

§ Restriction on field name:

§ The name of the field **can not start with a figure**.

§ The name of the field must be **one sole string of characters, no blank space nor particular character**. Only the underscore character (`_`) is allowed.

§ The name of the field **can not be DATE or LEVEL**. Cf. Oracle documentation for the other words reserved.

7.2.2.3 Management of attribute data by Object management's editor

The **screen form** is **managed** (adding, deleting and modifying fields) by the **Object management's editor**. As a result, consistency between the definition of the tables in the RDBMS and the structure of the screen form is always preserved.

7.2.2.4 Management of attribute data by RDBMS

RDBMS commands can be used to modify or create tables. If these commands are executed outside the STAR editor and if this data has to be visualized in STAR editors, it is necessary to create **screen forms whose structure is strictly identical to the description of the tables of the RDBMS**.

Fields are defined in the Object management's editor; **their name, length and type must be strictly respected**.

If a difference is detected by the system, the data will not be visualized through screen forms.

The users of the **Oracle RDBMS** can use the **desc_sql** tool:

► Methodology

1. Enable the appropriate work session.
2. Create a system window (on PC, open a 'Command prompt')
3. Encode : **sh** (return↵)
4. Encode : **desc_sql** (return↵)
5. **Choose** in the dialog **the name of the table** whose screen form needs to be created.

6. In the next dialog, **select the field(s) building up the key.**

7.3 MANAGING LINKS BETWEEN ATTRIBUTES AND LOCALIZERS

The characteristic of the STAR solution is that it can work with only cartographic or only attribute data.

The power of a GIS relies on the fact that it can 'link' attributes to localizers. This link is managed by several mechanisms specific of the STAR solution. The information '**link between attribute and localizer**' is stored by the RDBMS in 6 tables whose names are reserved by the STAR solution:

§ CATEGORIE
 § OBJET
 § GRAP_ALP
 § GRAPH
 § COMPTEUR
 § VUES

The first four tables (CATEGORIE, OBJET, GRAP_ALP, GRAPH) run in cascade to provide the information on a selected localizer or to locate an attribute.

The COMPTEUR table guarantees coherent indexing identifiers.

The VUES table is used to benefit from the links of a category whose records are located in a category whose key is identical.

Links mechanism in short (cf. also the table and the illustrations here under) :

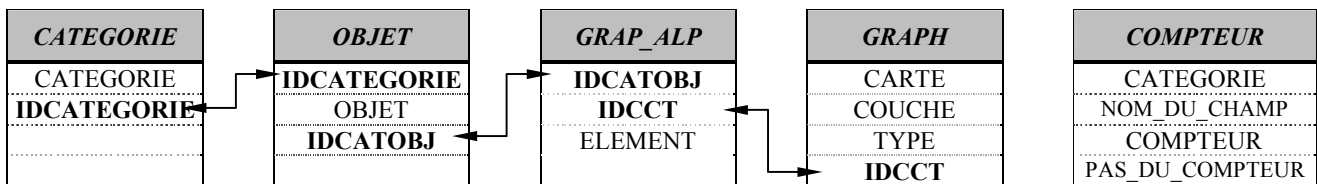
The goal is to link an alphanumeric attribute (identified by the name of the CATEGORIE and the value of the key) to a localizer (identified by its map name, layer name, graphic nature, page number and index number).

1. The **CATEGORIE** table contains the name of the table to which an **IDCATEGORIE** identifier is assigned.
2. The **OBJET** table contains the identifier of the category, the value of the key of the attribute to be linked to the localizer. An **IDCATOBJ** identifier is assigned to this couple of pieces of information.
3. The **GRAPH** table contains the name of the map, of the layer and the graphic nature of the localizer. An **IDCCT** identifier is assigned to this triplet of pieces of information.
4. The **GRAP_ALP** table contains the IDCATOBJ identifier, the IDCCT identifier, the page number and index of the localizer.

The COMPTEUR table guarantees the unicity of the assigned IDCATEGORIE, IDCATOBJ, IDCCT identifiers.

Splitting into several tables the 'link' information saves a lot of space in the RDBMS database.

Here is, in tables and schemes, the detailed description of the 6 link tables:

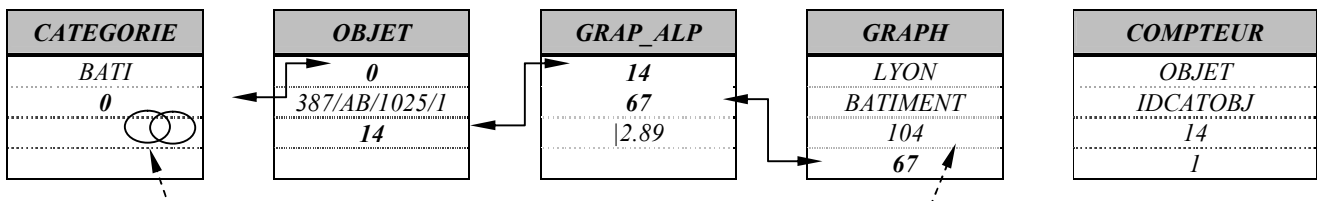


With

IDCATEGORIE = ID CATEGORIE

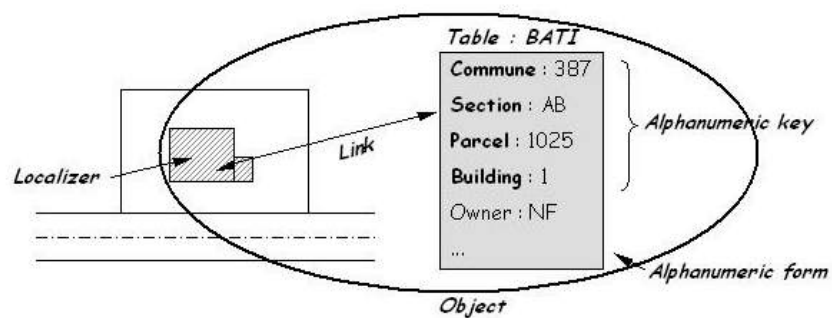
IDCATOBJ = ID CATEGORIE OBJET

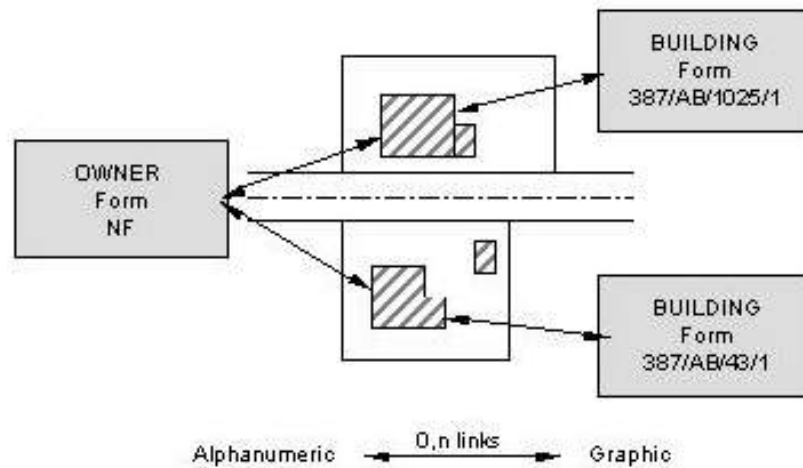
IDCCT = ID Carte Couche Type



CATEGORIE	CATEGORIE	Name	Give nr (index) to category. This saves from repeating several times a string of characters.
	IDCATEGORIE	Category index	
OBJET	IDCATEGORIE	Category nr	Give nr (index) to object (form) of category.
	OBJET	Object name (form's key)	
	IDCATOBJ	Form index	
	DATEVAL	2 dates used for recomputing G	
	DATEMOD	(geometric) fields	
GRAPH	CARTE	Map name	Give nr (index) to map/layer and graphic nature
	COUCHE	Layer name	
	TYPE	Code of graphic nature: 100 = Point 102 = Line 104 = Surface 106 = Text	
	IDCCT	Graphic index (map/layer and graphic nature)	
GRAP_ALP	IDCATOBJ	Index of form	Tables containing the links
	IDCCT	Graphic index (map/layer and nature)	
	ELEMENT	Graphic GI (Page.Index)	
	COEFF	Used in CXGOliaison	
	TEMP		
COMPTEUR	CATEGORIE	Gives the name of the link table whose nr is processed	Table incrementing all the nr (index) as new elements are included
	NOM_DU_CHAMP	Name of the field of the category that contains the counter	
	COMPTEUR	Counter value	
	PAS_DU_COMPTEUR	Increment	

Cartographic data can be used (or not) for attribute links and conversely, records can be (or not) attributes of localizers.





Data can be added or deleted as the GIS database grows.

If the STAR tools are used in a coherent way (links and records are carefully taken into account), the database remains consistent. The presence of all the forms and maps/layers that exist in the database is pertinent.

Consistency in the GIS database should be checked with the help of data input or import tools:

§ Are there too many attributes or not ?

§ Links can exist even if localizers are deleted.

Several tools are listed here after to preserve the consistency of the GIS database.

7.4 LIST OF LINKS WITH NO FORM

7.4.1 Topic

Database consistency should be preserved in order to maintain an homogenous and quality database. The WinSTAR Object management tools enable the user to isolate **the links that have no form**.

7.4.2 Methodology

► **Interfaced method :**

1. Enable the appropriate work session
2. Select 'Start / Programs / WinSTAR / Object management / Tools ...'
3. Select '**Links**' in the next menu
4. Select '**Links with no form**' in the new dialog
5. **Choose the table (category) to be processed**
6. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog is displayed again. The result of this procedure appears automatically in a new 'window'.

i The command executed is the following (let's say that the category processed is PARCELLE) :
xob_val PARCELLE 2 (for the list of links with no form)

► **Manual method :**

Cf. § 'Methodology > Manual method' of '[7.5 Deleting links with no form \(here under\)](#)'

7.5 DELETING LINKS WITH NO FORM

7.5.1 Topic

Databases should be cleaned in order to maintain an homogenous and quality database.
The WinSTAR Object management tools enable the user to delete **the links with no form**.

7.5.2 Methodology

► Interfaced method :

1. Enable the appropriate work session
2. Select 'Start / Programs / WinSTAR / Object management / Tools ...'
3. Select 'Links' in the next menu
4. First select in the new dialog 'Links with no forms' to list the elements concerned before starting deletion.
5. **Choose the table (category) to be processed**
6. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog is displayed again. The result of this procedure appears automatically in a new 'window'
7. Enable the 'Delete links with no forms' command and redo steps 4 and 5

i The command executed is the following (let's say that the category processed is PARCELLE) :
xob_val PARCELLE 3 (for deleting the links with no form)

► Manual method :

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')
3. Taper : **sh** (return↵)
4. For on-line help, encode : **xob_val -u** (return↵)
5. Adapt the syntax of the command according to the instructions of the on-line help

i See also /Winstar/Winstar/usage/F/xob_val

```
C:\>sh
$ xob_val -u

USAGE
xob_val [-K ServerName] [-S station] [-R repertoire] [-B base_de_donnees] [-N] [-C "carte-couche ..."]
action

DESCRIPTION
Traitement des liaisons

OPTIONS
-K<serveur alpha> : connexion a un serveur alphanumerique (STANDARD par defaut).
-S<station> : pour imposer une station autre que celle specifiee dans les options de localisation.
-R<directory> : pour imposer un repertoire autre que celui specifie dans les options de localisation.
-B<bd> : pour imposer une base de donnees autre que celle specifiee dans les options de
localisation.
-N : n'affiche pas de diagnostic apres traitements.
-C<carte-couche> : limite les traitements aux cartes/couches specifiees pour l'action CARTO.
-u : affiche cet usage.

ACTIONS
RECALCUL ALL : recalcul de tous les champs G de toutes les categories.
RECALCUL <SEL> : recalcul des champs G des categories/objets de la selection SEL.
RECALCUL_CATEG <CATEGORIE> : recalcul de tous les champs G de la categorie "CATEGORIE".
<CATEGORIE> 0 : liste des fiches de la categorie "CATEGORIE" n'ayant pas de liaisons.
<CATEGORIE> 1 : suppression des fiches de la categorie "CATEGORIE" n'ayant pas de liaisons.
<CATEGORIE> 2 : liste des liaisons n'ayant pas de fiches.
<CATEGORIE> 3 : suppression des liaisons n'ayant pas de fiches.
```

```

<CATEGORIE> 4 : creation des fiches manquantes pour les liaisons.
CARTO 5 : liste des objets geometriques lies mais inexistantes dans la base de donnees
cartographique.
CARTO 6 : suppression des objets geometriques lies mais inexistantes dans la base de donnees
cartographique.
ARCHI 5 : liste des objets geometriques lies mais inexistantes dans les niveaux archi.
ARCHI 6 : suppression des objets geometriques lies mais inexistantes dans les niveaux archi.
EXIST : suppressions des informations inutiles dans les tables de liaisons.

EXAMPLES
Recalcul des champs G :
xob_val RECALCUL ALL

Creation des fiches manquantes pour les liaisons de la categorie "TEST" sur la base de donnees "TEST",
sans affichage du diagnostic :
xob_val -B TEST -N TEST 4

Liste des objets lies mais inexistantes dans les carte-couches Liege-c1 et c2 :
xob_val -C "Liege-c1 Liege-c2" CARTO 5
$

```

7.6 LIST OF FORMS WITH NO LINK

7.6.1 Topic

Databases should be cleaned in order to maintain an homogenous and quality database.
The WinSTAR Object management tools enable the user to list **the forms with no link**.

7.6.2 Methodology

► Interfaced method :

1. Enable the appropriate work session
2. Select 'Start / Programs / WinSTAR / Object management / Tools ...'
3. Select 'Links' in the next menu
4. Select 'Forms with no link' in the new dialog
5. **Choose the table (category) to be processed**
6. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog is displayed again. The result of this procedure appears automatically in a new 'window'

- i** The command executed is the following (let's say that the category processed is PARCELLE) :
- xob_val PARCELLE 0** (for the list of forms with no link)
xob_val PARCELLE 1 (for deleting the forms with no link)

► Manual method :

Cf. § 'Methodology > Manual method' of '7.5 Deleting links with no form (page 78)

7.7 DELETING FORMS WITH NO LINK

7.7.1 Topic

Databases should be cleaned in order to maintain an homogenous and quality database.
The WinSTAR Object management tools enable the user to **delete the forms with no link**.

7.7.2 Methodology

► Interfaced method :

1. Enable the appropriate work session
2. Select 'Start / Programs / **WinSTAR / Object management / Tools ...**'
3. Select '**Links**' in the next menu
4. First select in the new dialog '**Forms with no links**' to list the elements concerned before starting deletion.
5. **Choose the table (category) to be processed**
6. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog appears again. The result of this search process appears automatically in a new 'window'
7. Enable the '**Delete forms with no link**' command and redo steps 4 and 5

i The command executed is the following (let's say that the category processed is PARCELLE) :

xob_val PARCELLE 0 (for the list of forms with no link)
xob_val PARCELLE 1 (for the deletion of forms with no link)

► **Manual method :**

Cf. le § 'Methodology > Manual method' of '7.5 Deleting links with no form (page 78)

7.8 DELETING NON EXISTING OBJECTS

7.8.1 Topic

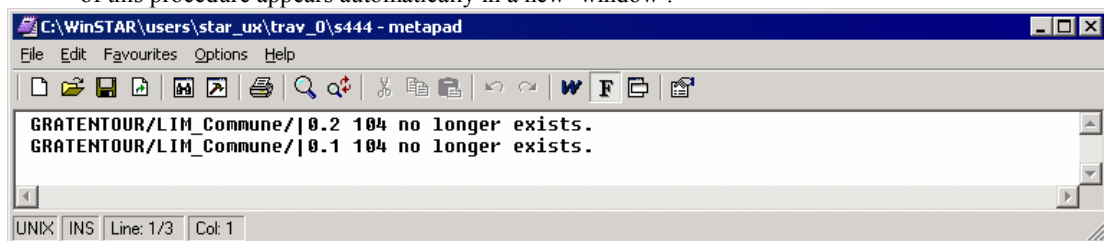
Databases should be cleaned in order to maintain an homogenous and quality database.

The WinSTAR Object management tools enable the user to **delete the links of non existing graphic elements**.

7.8.2 Methodology

► **Interfaced method :**

1. Enable the appropriate work session
2. Select 'Start / Programs / **WinSTAR / Object management / Tools ...**'
3. Select '**Links**' in the next menu
4. First select in the new dialog '**Delete non existing graphic elements (carto/techno)**' to list the elements concerned before starting deletion.
5. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog is displayed again. The result of this procedure appears automatically in a new 'window'.



6. Enable the '**Delete non existing graphic elements (carto/techno)**' command and redo steps 4 and 5

i The command executed is the following :

xob_val CARTO 5 (for the list of links pointing to localizers that no longer exist)
xob_val CARTO 6 (for deleting the links pointing to localizers that no longer exist)

► **Manual method :**

Cf. le § 'Methodology > Manual method' of '7.5 Deleting links with no form (page 78)

7.9 DELETING USELESS INFORMATION

7.9.1 Topic

Databases should be cleaned in order to maintain an homogenous and quality database.
The WinSTAR Object management tools enable the user to **delete the useless information in links**.

7.9.2 Methodology

► **Interfaced method :**

1. Enable the appropriate work session
2. Select 'Start / Programs / WinSTAR / Object management / Tools ...'
3. Select '**Links**' in the next menu
4. First select in the new dialog '**Delete useless information**' to list all the elements concerned in link tables.
5. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog is displayed again. The result of this procedure appears automatically in a new 'window'

i The command executed is:

xob_val EXIST

► **Manual method :**

Cf. § 'Methodology > Manual method' of '7.5 Deleting links with no form (page 78)'

7.10 RECOMPUTING G FIELDS

7.10.1 Topic

Databases should be updated (such as recomputing the fields automatically input) to maintain an homogenous and quality database.
The WinSTAR Object management tools enable the user to **recompute G fields**.

i Reminder : The **G (Geometric) fields** are not filled in by the user but **automatically use** (according to a formula defined in the structure file) the value of a **graphic attribute** of the localizer(s) linked to the attribute form. A G field may contain, for instance, the area or the graphic perimeter of a graphic surface object linked to the form.

7.10.2 Methodology

► **Interfaced method :**

1. Enable the appropriate work session
2. Select 'Start / Programs / WinSTAR / Object management / Tools ...'
3. Select '**Links**' in the next menu
4. In the new dialog, select according to your needs:
 - § **Recompute G field**
 - § **Recompute G field (date)**
 - § **Recompute G field (category, objects, fields)**
 And follow the information in the table here under.
5. Search is done when the 'GRAPHIC-ALPHANUMERIC LINKS' dialog is displayed again. The result of this procedure appears automatically in a new 'window'.

Recompute G field

§ **Recomputing of all Geometric fields** of the alphanumeric database via the active session.

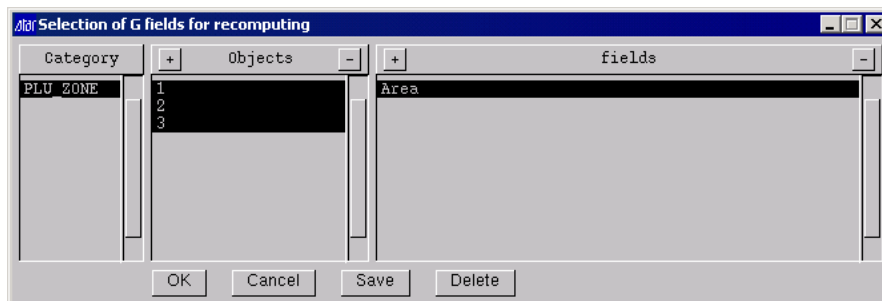
As all the forms of all tables are gone through, the process is very long but guarantees the complete update of the alphanumeric DB. That is why we recommend you to execute this command in the evening.

§ The command executed is : **xob_val RECALCUL ALL**

Recompute G field (date)

§ **Selective (date) recomputing of G fields of all categories whose**

	<p>links have been modified after the last update</p> <p>§ The command executed is : xob_val</p>
<p>Recompute G field (category, objects, fields)</p>	<p>§ Selective recomputing of Geometric fields left to the choice of the user.</p> <p>Selection concerns one or several categories.</p> <p>Several objects can be selected.</p> <p>Selection among the G fields to be recomputed is possible (if several G fields are defined in a category).</p> <p>Selection must be saved before continuing the processes. Meaning of the actions :</p> <p>§ 'OK' : Continues the processes</p> <p>§ 'Cancel' : Interrupts the process</p> <p>§ 'Save' : Saves the selection (necessary before continuing the processes or selecting another category)</p> <p>§ 'Delete' : Deletes the previous selection</p> <p>§ The command executed is : xob_val RECALCUL SEL</p>



Recomputing of G field (category, objects, fields)

► **Manual method :**

Cf. le § 'Methodology > Manual method' of '7.5 Deleting links with no form (page 78)

7.10.3 Don't forget

If G fields are not recomputed although the links between the forms and localizers do exist, check that the 'Frame' parameter of the field is L (Left) and not R (Right).

7.11 RECOMPUTING F FIELDS

7.11.1 Topic

Databases should be updated (such as recomputing the fields automatically input) to maintain an homogenous and quality database.

The WinSTAR Object management tools enable the user to **recompute F fields**.

- i** Reminder : The **F (Formula) fields** are not filled in by the user but **automatically result from an arithmetic formula** (according to a formula defined in the structure file). So, the value of an F field is the result of a mathematical computing using numeric fields of the current form.

7.11.2 Methodology

1. Enable the appropriate work session
2. Select 'Start / Programs / WinSTAR / Object management / Tools ...'
3. Select '**Recompute F and A fields**' in the next menu
4. **Choose the table (category) to be processed**
5. Search is done when the 'Object management' menu is displayed again.

7.12 RECOMPUTING A FIELDS

7.12.1 Topic

Databases should be updated (such as recomputing the fields automatically input) to maintain an homogenous and quality database.

The WinSTAR Object management tools enable the user to **recompute A fields**.

- i** Reminder : The **A (Alphanumeric) fields** are not filled in by the user but **are automatically extracted from another field of the current form or from another form of another table** (according to a formula defined in the structure file). For instance, the value of an A field enables the user to simplify the update of the fields whose value is identical. One of these fields is used as reference and the other ones automatically get the value of the first one.

7.12.2 Methodology

1. Enable the appropriate work session
2. Select 'Start / Programs / **WinSTAR / Object management / Tools ...**'
3. Select '**Recompute F and A fields**' in the next menu
4. **Choose the table (category) to be processed**
5. Search is done when the 'Object management' menu is displayed again.

7.13 UPDATING LABELS

7.13.1 Topic

Databases should be updated to maintain an homogenous and quality database.

The WinSTAR tools enable the user to **update labels**.

- i** Reminder : **Labels** are graphic texts whose value is not input by the user but automatically uses (according to the configuration of the label) the value(s) of alphanumeric fields linked to the labeled localizer. If the alphanumeric database is modified, the labels concerned need to be updated.

7.13.2 Methodology

► **Interfaced method :**

1. Enable the appropriate work session
2. Select 'Start / Programs / **WinSTAR / CARTO WinSTAR/Text update**'
3. In the next dialog, **encode the name of the Map and of the Layer** to be processed.
4. A message appears automatically and informs that the process is done.

7.14 ADMINISTRATING LINKS

7.14.1 Topic

Link tables should be managed to maintain an homogenous and quality database.

The tool used to Manage link tables is **LinkToolBox** and **enables** the user to:

- § **Check the correct indexing of the tables.**
- § **List the links** of a category or a map/layer.
- § **Delete the links** of a category or a map/layer.

7.14.2 Methodology

► **Manual method :**

1. Enable the appropriate work session
2. Create a system window (on PC, open a 'Command prompt')

3. Encode: **sh** (return↵)
 4. Encode : **LinkToolBox** (return ↵)
 5. Choose the action to be done
- i** The commands executed are SQL commands valid for Oracle and Access.
- i** The creation of index deletes the existing index before re-creating new ones.