

# CLISYS



- ★ CLISYS features
- ★ Fundamentals used to design the CLISYS database
- ★ Advantages of the dynamic structure
- ★ Supported platforms
- ★ Cost
- ★ Planned

# Features (1/2)

## ★ **Operational tasks**

- **Metadata Management**
- **Data Management (elaborated data, quality control, catalogue, ...)  
following WMO recommendations**
- **Data Loading (from mass key entry system and most of existing systems)**

## ★ **Management tasks**

- **Administration (applicative and system)**

## ★ **Data place customer's disposal**

- **Access layer for developers**
- **GUI**
- **Production (interfaced with web)**

## ★ **Documentation (on-line html and pdf formats)**

# Features (2 / 2 )

## ★ Database Models

- Metadata model (including instrument management, images, ...)
  - Pre-defined data model (Hourly, Daily, Ten Days, Monthly, Upper, Record, Normal, Agro,..)
  - Dynamic model which can be used to replace or to enrich the pre-defined one
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- Naming convention for parameters
  - Management of access rights
  - Full use of RDBMS constraints

# Fundamentals used to design operational database in Météo-France

## ★ **Problems to solve:**

- **Ability to manage a huge amount of data (1Tb) whilst preserving rapid access times**
- **Ability to define new meteorological data type**
- **Ability to minimize the management cost**

## ★ **Choice made by Météo-France**

- **The use of a dynamic structure**
  - ➔ **Each data table is described in the « dynamic model » (a set of descriptive tables)**
  - ➔ **Routines of the API access to these descriptive tables before accessing to the data**
  - ➔ **Allows partitioning of data tables**
  - ➔ **Allows distribution of data tables on different locations**

# Dynamism

## ★ **All Clisys modules implement the dynamic architecture**

- **The data model is upgradeable and configurable without writing new source code**
- **New data types can be managed (environment, ...)**
- **CliSys data management tools (loading, calculating, quality control, access layer) and the GUI follow automatically the data model upgrade**

# Technical characteristics

## ★ Clisys implementation

- C, C++, Perl, Python, Java, SQL, PL-SQL
- RDBMS: Oracle 8i
- Application Server: Zope

## ★ Platforms

- Clisys kernel: UNIX ( now on Linux/intel and Sun/Solaris)
- Client application (GUI and Mass Key Entry): Multi-Platforms
- Clisys API: UNIX

## ★ Hardware requirements

- Ram  $\geq 256\text{Mb}$  and disk space  $\geq 20\text{Gb}$

# Costs

- ★ **Oracle license**
- ★ **CliSys**
- ★ **Linux distribution (and all open source tools)**
- ★ **Hardware ( Server, Workstation, LAN, UPS, backup, archive, etc.)**
- ★ **Training**
  - **CliSys users and operators**
  - **CliSys advanced**
  - **SQL**
  - **Database administrator**

# Planned

- ★ **2003: CliSys ready to be distributed and supported**
  
- ★ **Next step:**
  - **Consolidation**
  - **Production improvement**
  - **Use of open source RDBMS (as PostgreSQL)**