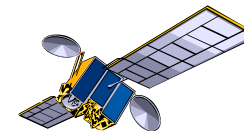


# Graphical Interference Management System

## (GIMS)

EVRARD Olivier (BR/IAP/STS)



**Geneva, 8-12 December 2008**

## Introduction

Data

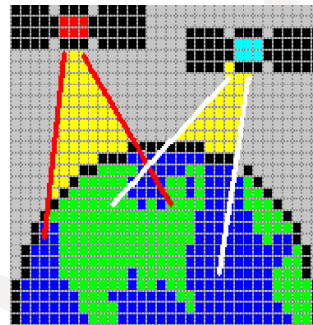
Programming

Interference

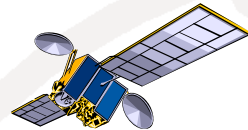
Query

GXT

Capture



## Introduction



- GIMS in the BR Software jungle...

# Introduction - I

## Appendix 4 – GSO Satellites

### ■ Alphanumeric Data

- SpaceCap
- SpaceQuery
- SpaceCom
- SpaceVal

### ■ Graphical Data

- Antenna Gain Contours (B.3.b)
- Antenna Gain towards GSO (B.3.e)
- Service Area (C.11.a)
  
- GIMS
  - GimsQry
  - GXTEdit

SpacePub

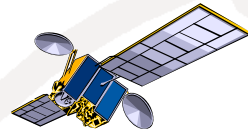
GIBC

MSPACE

# Introduction - II

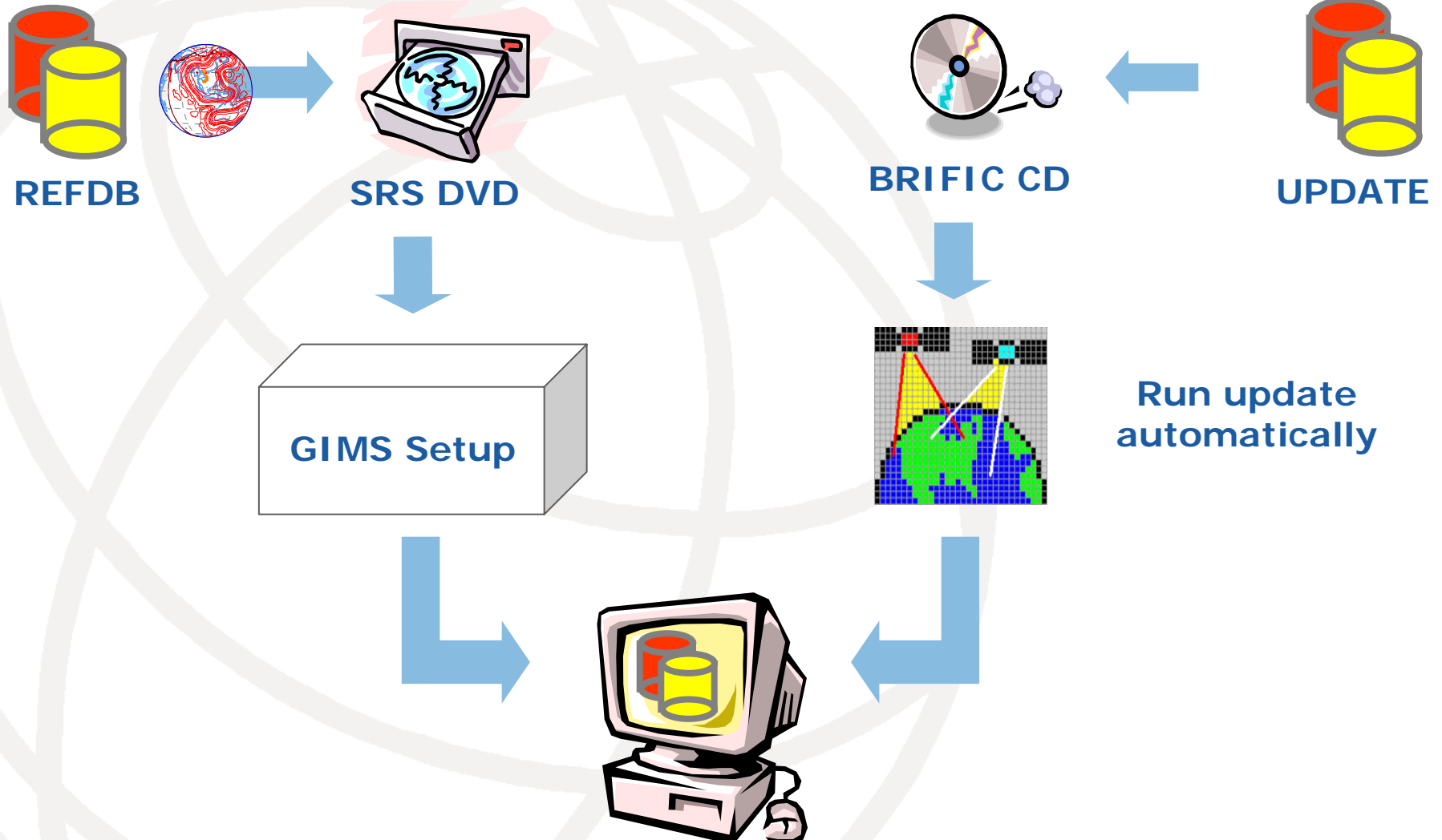
- Why graphical data ?
  - Describe antenna gain footprint
  - Describe service area
  - Used in compatibility analysis software
    - GIBC
      - Appendix 8
      - PFD Terrestrial (Art 21, Appendix 5)
      - PFD Space (Appendix 30)
      - Appendix 30B
    - MSPACE
      - Appendix 30, 30A

## Data



- GIMS in your computer jungle...

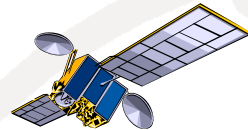
# Data Setup



# Data Update

- Incremental update
  - BR IFIC CD
  - All modifications done in the past two weeks
  - Not related to the SNS increment
  
- Full Update
  - SRS DVD
  
- Why updating?
  - Get the latest data
  - **Keep SNS/SPS synchronized with GIMS**
    - Important to run MSPACE & GIBC

## Query



- GIMS, a SpaceQry for graphical data...

# Query Tools - GIMS

## ■ Database Explorer

- Hierarchical view
- Selection of diagrams to view
- Filtering (adm code,...)
- Bulk operations
  - Export
  - Clone
  - ...

# Query Tools - GimsQry

## ■ GimsQry

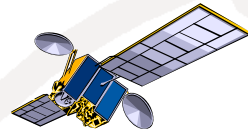
- List view
- Filtering (adm code, diagram type,...)
- Coverage query (country, points)
- View listed diagrams with GIMS

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## Query Tools - Others

- **SpaceQry**
  - Beam level screen
  - View diagrams with GIMS
  
- **SpacePub**
  - Print of diagrams
  
- **Gimapi32 Library**
  - Do it yourself

## Capture



- GIMS, a SpaceCap for graphical data...

# Capture

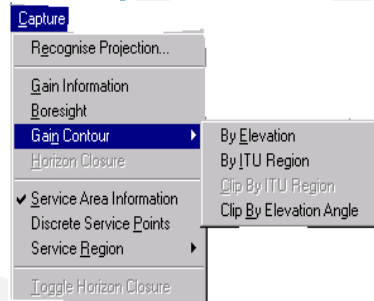
"Drawing"  
on Paper

Digitizer

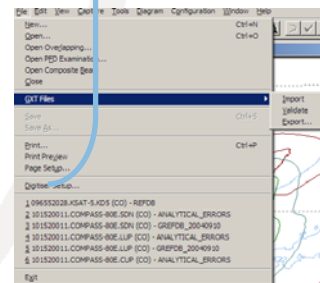


"Simple" diagrams  
e.g.: global beams

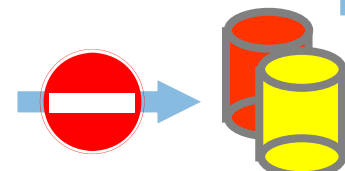
Elliptical beams



GXT File

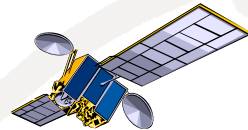


Personal DB



REFDB

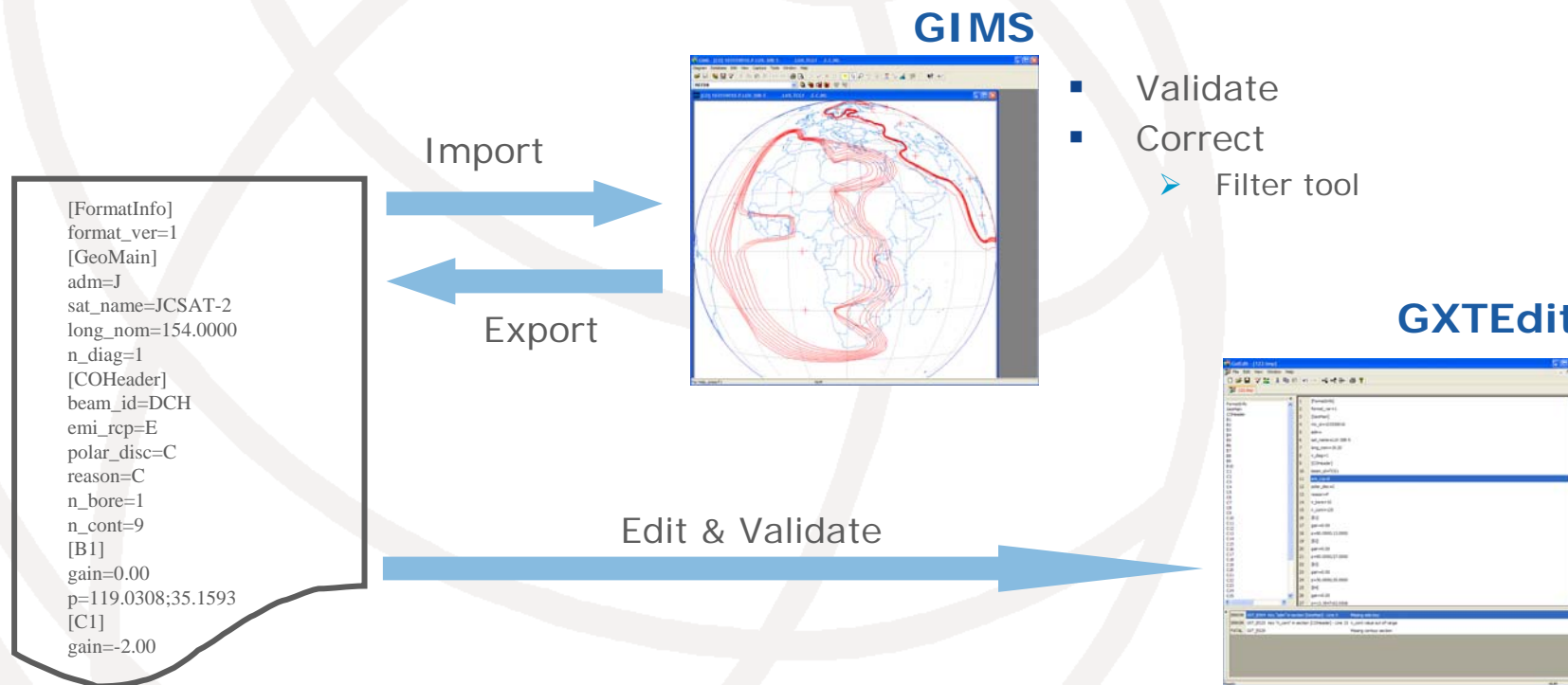
**GXT**



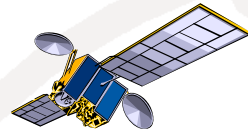
- Exchange of graphical data

# GXT Files

- Textual representation of diagram data
  - Attachment 2 to CR58
  - Electronic notification



# Interference



- GIMS, an interactive GIBC

# Interference Tools

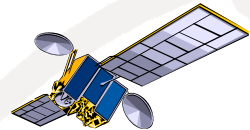
## ■ Gain Interpolation

- Click on map
- Enter coordinates

## ■ PFD Examination

- One emission (vs. all emissions with GIBC)
- Article 21, Appendix 30 & 30B
- Visualize excess area
- List of affected countries

## Programming



- Do it yourself...

# GIMS Libraries

- **Gimapi32.dll**
  - Browse REFDB
  - Browse personal DBs
  - Import/Export GXT files
  - Save into personal DBs
  
- **Shapedbm.dll**
  - Calculate gain
  
- **On SRS DVD**
  - Documentation
  - Code samples
  
- **Works from most languages on Windows**
  - C, C++, Fortran, Visual Basic, C#...

# FAQ

- **Where can I get GIMS?**
  - SRS DVD
  - BR IFIC CD
  - <http://www.itu.int/ITU-R/software/space/gims/index.html>
  
- **How do I...?**
  - On-line help (F1)
  - [brsas@itu.int](mailto:brsas@itu.int)
  - Workshop
  
- **Does GIMS run on Linux?**
  - No! Only on
    - Windows® 2000
    - Windows® XP
    - Windows Vista®

# Workshop

- Room M2 (Montbrillant building)
- From 9.00 to 12.00
- Workshop\Space\SPR\GIMS folder
  - Exercises in GIMS\_Workshop.pdf
  - Solutions: Videos\GIMS\_Workshop\_Videos.html
- 5 PC & 5 digitizers
  - 50' sessions
  - Registration required
  - Group by administration
- 20 to 50 places (2 digitizers)
  - Free to come with your laptop
  - No time limit
  - Do workshop exercises or ask specific questions