

Overview

BR Space Applications for Non-Planned Services

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Space Services Department



APPENDIX 4 (REV.WRC-12) ANNEX 2

Characteristics of satellite networks, earth stations or radio astronomy stations² (Rev.WRC-12)

APP-01	APP-02	APP-03	APP-04	APP-05
<p>APP-01</p> <p style="text-align: center;">A GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION</p> <p>Table of characteristics to be submitted by space and radio astronomy services</p> <p>Table 1</p> <p>Table 2</p> <p>Table 3</p> <p>Table 4</p> <p>Table 5</p> <p>Table 6</p> <p>Table 7</p> <p>Table 8</p> <p>Table 9</p> <p>Table 10</p> <p>Table 11</p> <p>Table 12</p> <p>Table 13</p> <p>Table 14</p> <p>Table 15</p> <p>Table 16</p> <p>Table 17</p> <p>Table 18</p> <p>Table 19</p> <p>Table 20</p> <p>Table 21</p> <p>Table 22</p> <p>Table 23</p> <p>Table 24</p> <p>Table 25</p> <p>Table 26</p> <p>Table 27</p> <p>Table 28</p> <p>Table 29</p> <p>Table 30</p> <p>Table 31</p> <p>Table 32</p> <p>Table 33</p> <p>Table 34</p> <p>Table 35</p> <p>Table 36</p> <p>Table 37</p> <p>Table 38</p> <p>Table 39</p> <p>Table 40</p> <p>Table 41</p> <p>Table 42</p> <p>Table 43</p> <p>Table 44</p> <p>Table 45</p> <p>Table 46</p> <p>Table 47</p> <p>Table 48</p> <p>Table 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Appendix 4 of Radio Regulations Characteristics of satellite networks, earth stations or radio astronomy stations (Annex 2)

1 The substance of this Appendix is separated into two parts: one concerning data and their use for terrestrial radiocommunication services and another concerning data and their use for space radiocommunication services or the radio astronomy service (Annex 2).

2 Both parts contain a list of characteristics and a table indicating the use of each of the characteristics in specific circumstances.

Annex 1: Characteristics of stations in the terrestrial services
Annex 2: Characteristics of satellite networks, earth stations or radio astronomy stations.

ANNEX 1 Characteristics of stations in the terrestrial services¹

In application of Appendix 4 there are many cases when the data requirements involve the standard symbols in submissions to the Radiocommunication Bureau. These standard symbols are found in the Preface to the BR International Frequency Information Circular (Terrestrial Services). In the Tables, this is referred to simply as "the Preface". Information relating to the provision of data may also be found in ITU-R Recommendations, for example, information on the mask data can be found in the most recent version of Recommendation ITU-R S.1501, and the most recent version of Recommendation ITU-R SM.1413 provides general information related to submission of data.

Key to the symbols used in Annex 1

X	Mandatory information
+	Mandatory under the conditions specified in Column 3 of Table 1 and Column 2 of Table 2
O	Optional information
C	Mandatory if used as a basis to effect coordination with another administration
-	The data item is not applicable to the corresponding notice

ANNEX 2 Characteristics of satellite networks, earth stations or radio astronomy stations² (Rev.WRC-12)

Information relating to the data listed in the following Tables

In many cases the data requirements involve the use of standard symbols in submissions to the Radiocommunication Bureau. These standard symbols may be found in the "Preface to the BR International Frequency Information Circular" (BR-IFIC) (Space Services), the ITU-R subpage and the Space Radiocommunication Station on DVD-ROM. In the Table, this is referred to simply as "the Preface". Information relating to the provision of data may also be found in ITU-R Recommendations, for example, information on the mask data can be found in the most recent version of Recommendation ITU-R S.1501, and the most recent version of Recommendation ITU-R SM.1413 provides general information related to submission of data.

Key to the symbols used in Tables A, B, C and D

X	Mandatory information
+	Mandatory under the conditions specified in Column 2
O	Optional information
C	Mandatory if used as a basis to effect coordination with another administration
-	The data item is not applicable to the corresponding notice

² The Radiocommunication Bureau shall develop and keep up-to-date forms of notice to meet fully the data requirements of this Appendix and related documents of future conferences. Additional information on the forms listed in

APPENDIX 8 (REV.WRC-03)

Method of calculation for determining if coordination is required between geostationary-satellite networks sharing the same frequency bands

T_s : the equivalent satellite link noise temperature, referred to the output of the receiving antenna of the earth station (K);

T_e : the receiving system noise temperature of the space station, referred to the output of the receiving antenna of the space station (K);

T_g : the receiving system noise temperature of the earth station, referred to the output of the receiving antenna of the earth station (K);

ΔT_s : apparent increase in the receiving system noise temperature of the satellite S, caused by an interfering emission, referred to the output of the receiving antenna of this satellite (K);

ΔT_e : apparent increase in the receiving system noise temperature of the earth station e_R , caused by an interfering emission, referred to the output of the receiving antenna of this station (K);

p_e : maximum power density per Hz delivered to the antenna of satellite S (averaged over the worst 4 kHz band for a carrier frequency below 15 GHz or over the worst 1 MHz band above 15 GHz) (W/Hz);

$g_s(\eta)$: transmitting antenna gain of satellite S in the direction η (numerical power ratio);

$g_s(\theta)$: transmitting antenna gain of satellite S, of the receiving earth station e_R , of the transmitting earth station e_T , or of the receiving earth station e'_R (numerical power ratio);

η'_e : direction, from satellite S, of the receiving earth station e'_R of satellite link A';

NOTE – The product $p_e g_s(\eta'_e)$ is the maximum e.i.r.p. per Hz in the direction of the receiving earth station e'_R of satellite link A'.

η'_s : direction, from satellite S, of satellite S';

p_e : maximum power density per Hz delivered to the antenna of the transmitting earth station e_T (averaged over the worst 4 kHz band for a carrier frequency below 15 GHz or over the worst 1 MHz band above 15 GHz) (W/Hz);

$g_s(\delta)$: receiving antenna gain of satellite S in the direction δ (numerical power ratio);

δ_A : direction, from satellite S, of the transmitting earth station e_T of satellite link A;

δ'_s : direction, from satellite S, of the transmitting earth station e'_T of satellite link A';

δ'_s : direction, from satellite S, of satellite S';

θ : topocentric angular separation in degrees between the two satellites¹, taking the longitudinal station-keeping tolerances into account;

NOTE – Only the topocentric angle θ , should be used in dealing with Case I.

θ_g : geocentric angular separation in degrees between the two satellites, taking the longitudinal station-keeping tolerances into account;

NOTE – Only the geocentric angle θ_g should be used in dealing with Case II.

$g_e(\theta_e)$: transmitting antenna gain of the earth station e_T in the direction of satellite S' (numerical power ratio);

$g_e(\theta_e)$: receiving antenna gain of the earth station e_R in the direction of satellite S' (numerical power ratio);

k : Boltzmann's constant (1.38×10^{-23} J/K);

L_d : free-space transmission loss² on the downlink (numerical power ratio), evaluated from satellite S to the receiving earth station e_R for satellite link A;

NOTE – The free-space transmission loss on any downlink evaluated from the satellites S or S' to the receiving earth stations e_R or e'_R is considered to be equal to L_d .

L_u : free-space transmission loss² on the uplink (numerical power ratio), evaluated from the transmitting earth station e_T to satellite S or S'.

NOTE – The free-space loss on any uplink evaluated from the earth stations e_T or e'_T to the satellite S or S' is considered to be equal to L_u .

γ : transmission gain of a specific satellite link subject to interference evaluated from the output of the receiving antenna of the satellite S' (numerical power ratio);

NOTE – The transmission gain γ is the ratio of the transmission loss on the satellite S' link (numerical power ratio) evaluated from the transmitting earth station e_T to satellite S' to the transmission loss on the satellite S link (numerical power ratio) evaluated from the transmitting earth station e_T to satellite S.

$$\Delta T_s = \frac{p'_e g'_s(\theta_s) g'_s(\delta'_e)}{k L_u} \quad (1)$$

$$\Delta T_e = \frac{p_s g'_s(\eta_e) g'_s(\theta_s)}{k L_d} \quad (2)$$

$$\Delta T = \gamma \frac{p_e g'_s(\theta_s) g'_s(\delta'_e)}{k L_u} + \Delta T_e = \frac{p_s g'_s(\eta_e) g'_s(\theta_s)}{k L_d} \quad (4)$$

$$\Delta T' = \gamma \frac{p_e g'_s(\theta_s) g'_s(\delta'_e)}{k L_u} + \Delta T'_e = \frac{p_s g'_s(\eta_e) g'_s(\theta_s)}{k L_d} \quad (7)$$

$$\Delta T' = \gamma \Delta T'_e = \frac{\gamma p_s g'_s(\eta_e) g'_s(\delta'_e)}{k L_d} \quad (10)$$

$$\theta_s = \arccos \left(\frac{d_1^2 + d_2^2 - \left(84 \, 332 \sin \frac{\theta_g}{2} \right)^2}{2 d_1 d_2} \right)$$

$$L = 20 (\log f + \log d) + 32.45 \quad \text{dB}$$

$$d_g = 42 \, 644 \sqrt{1 - 0.2954 \cos \varphi} \quad \text{km}$$

$$d_g = 84 \, 332 \sin \frac{\theta_g}{2} \quad \text{km}$$

$$G(\varphi) = G_{max} - 2.5 \times 10^{-3} \left(\frac{D}{\lambda} \varphi \right)^2 \quad \text{for } 0 < \varphi < \varphi_m$$

$$G(\varphi) = G_1 - 15.85 \left(\frac{D}{\lambda} \varphi \right)^{-0.6} \quad \text{for } \varphi_m \leq \varphi < 48^\circ$$

$$G(\varphi) = 32 - 25 \log \varphi \quad \text{for } 48^\circ \leq \varphi < 180^\circ$$

$$G(\varphi) = -10 \quad \text{for } 180^\circ \leq \varphi < 180^\circ$$

D : antenna diameter } expressed in the same unit
 λ : wavelength }

φ : off-axis angle of the antenna, in degrees, equal to θ or θ_g , as applicable

$$G_1: \text{ gain of the first sidelobe} = 2 + 15 \log \frac{D}{\lambda}$$

$$\varphi_m = \frac{20 \lambda}{D} \sqrt{G_{max} - G_1} \quad \text{degrees}$$

$$\varphi_r = 15.85 \left(\frac{D}{\lambda} \right)^{-0.6} \quad \text{degrees}$$

b) for values of $\frac{D}{\lambda} < 100^4$ (maximum gain < 48 dB approximately):

$$G(\varphi) = G_{max} - 2.5 \times 10^{-3} \left(\frac{D}{\lambda} \varphi \right)^2 \quad \text{for } 0 < \varphi < \varphi_m$$

$$G(\varphi) = G_1 \quad \text{for } \varphi_m \leq \varphi < 100 \frac{\lambda}{D}$$

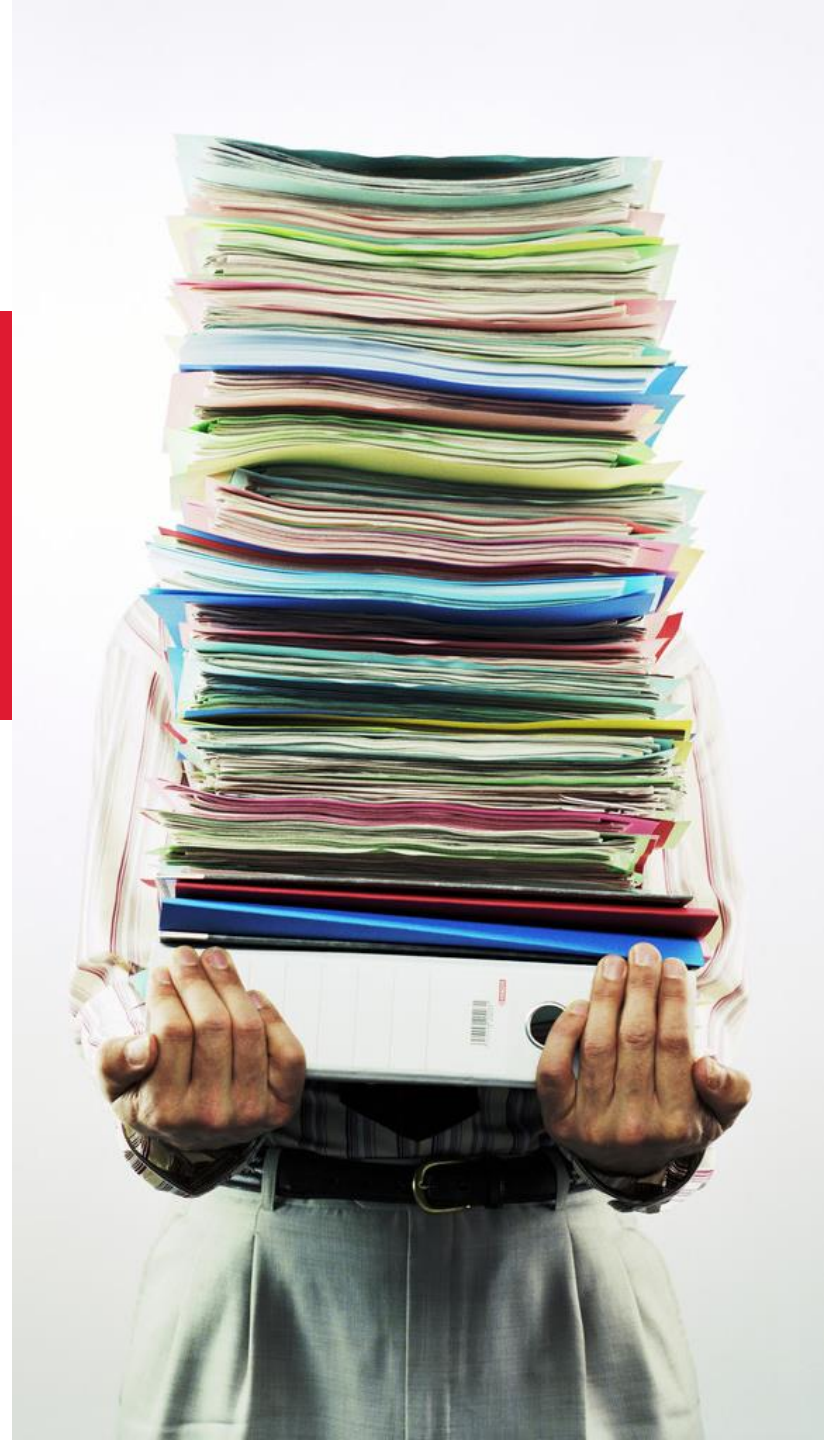
$$G(\varphi) = 52 - 10 \log \frac{D}{\lambda} - 25 \log \varphi \quad \text{for } 100 \frac{\lambda}{D} \leq \varphi < 48^\circ$$

$$G(\varphi) = -10 - 10 \log \frac{D}{\lambda} \quad \text{for } 48^\circ \leq \varphi \leq 180^\circ$$

Appendix 8 of Radio Regulations Method of calculation for determining if coordination is required between GSO networks sharing same frequency bands

USE OF BR SPACE APPLICATIONS HELPS

Provides guidance to apply and
comply with Radio Regulations





TO PREPARE ELECTRONIC FILINGS

Create and validate filings
Run technical examination
Comment
Query data

BR Space Applications aim to be

Efficient

- Maximum productivity with minimum effort
- Structured and logical approach
- Quick results



BR Space Applications aim to be

Efficient
Reliable

- Comply with Radio Regulations
- Maintained by developers and engineers
- Used by administrations and operators



BR Space Applications aim to be

Efficient
Reliable
Consistent

- Repeatability of results
- Interoperability between BR space applications



BR Software is

FREE



ITU BR software webpage
BR IFIC DVD*

* 1 free per administration else CHF600/DVD or CHF3530/year

BR Space Applications Setup

Select Applications

Select Applications to Install

- SAM (Space Application Manager)
- GIBC (Graphical Interface Batch Calc.)
- GIMS (Graphical Interference Management)
- SPS (Space Plans System)
- SpaceCap (Space Data Capture System)
- SpaceCom (Space Comments Capture System)
- SpacePub (Space Publications System)
- SpaceQty (Space Query and Extract System)
- SpaceVal (Space Validation System)

Select All

Clear All

InstallShield

< Back

Next >

Cancel

BR IFIC DVD



BR_Soft



setup.exe

VERSION 7

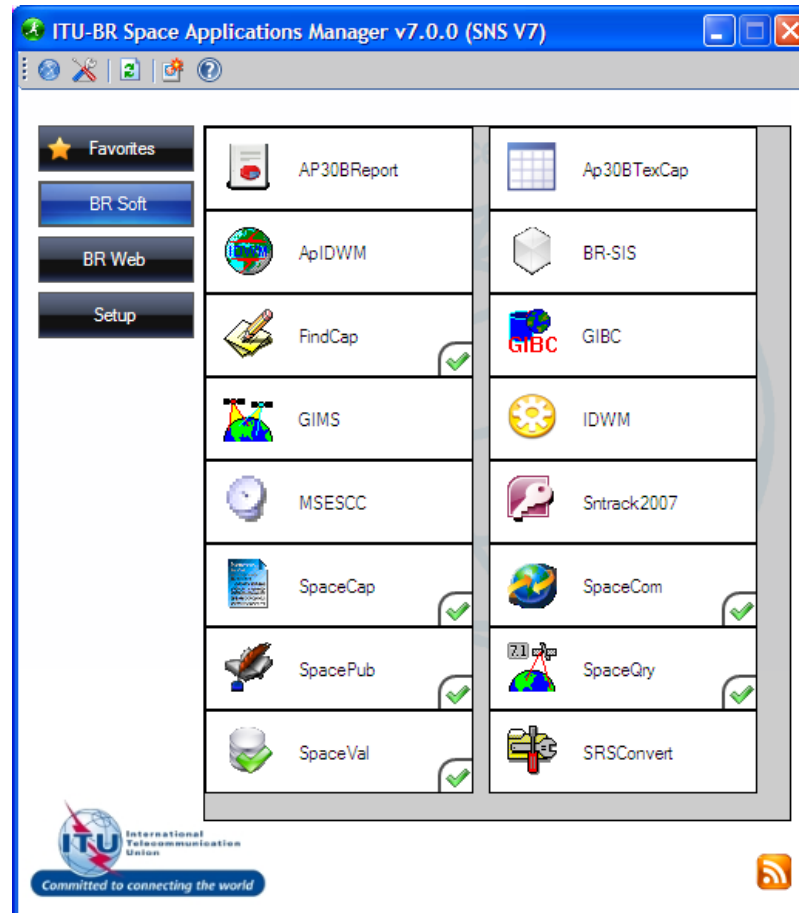
Latest version, incorporated
changes from WRC-12



SAM

Space Applications Manager

**ONE
INTERFACE**
to launch BR software



SAM

Space Applications Manager

SpaceCap

CAPTURE NOTICES

Captures data in SNS-structured Access database for electronic submission of notices relating to space stations: API, Coordination Requests, Notification, Resolution 49/552

The screenshot displays the SpaceCapture V7 software interface. The title bar reads "SpaceCapture V7 - [GeoStationary Notice:113520234]". The menu bar includes "File", "Edit", "Tools", "View", "Window", and "Help". The toolbar contains various icons for file operations and navigation. The main window has a tabbed interface with "Notice" selected. The "Notice" tab shows the following details:

- Notice Id: 113520234
- AP4/II and AP4/III (Appendix 4 - Annex 2A)
- Date: 30.01.2014
- Status: 43

Under "Notice submitted under:", there are several radio button options:

- No. 9.6 Coordination
- No. 11.2 Notification
- First Notification
- Resubmission

Below these are three checkboxes:

- No. 9.11A Applies
- Bands 21.4 to 22 GHz
- Bands 21.4 to 22 GHz Special Procedure

Other radio button options include:

- No. 9.7A Specific Receive GSO FSS Earth stn Coordination
- No. 9.17 Earth Station Coordination amongst Administrations

Form fields include:

- Date: DD.MM.YY (30.11.2013)
- Administration Serial Nbr (001)
- A111 Notifying Administration (F)
- A113 Intergovernmental Satellite System (dropdown)
- A112 Notice submitted on behalf of these administrations (input field with + and x buttons)

A "Notice intended for" section has radio buttons for:

- Addition
- Modification
- Suppression

A text field for "BR Identification No. of Station to be modified/suppressed" is also present.

At the bottom, there is a "Type of Satellite Network or Earth Station" section with radio buttons for:

- GeoStationary Satellite Network
- NonGeoStationary Satellite Network
- Specific Earth Station
- Typical Earth Station

The status bar at the bottom shows "Current DB : C:\BR_SOFT\srs_db\srs_all.mdb", "6:40 PM", and "26.02.2014".

SAM

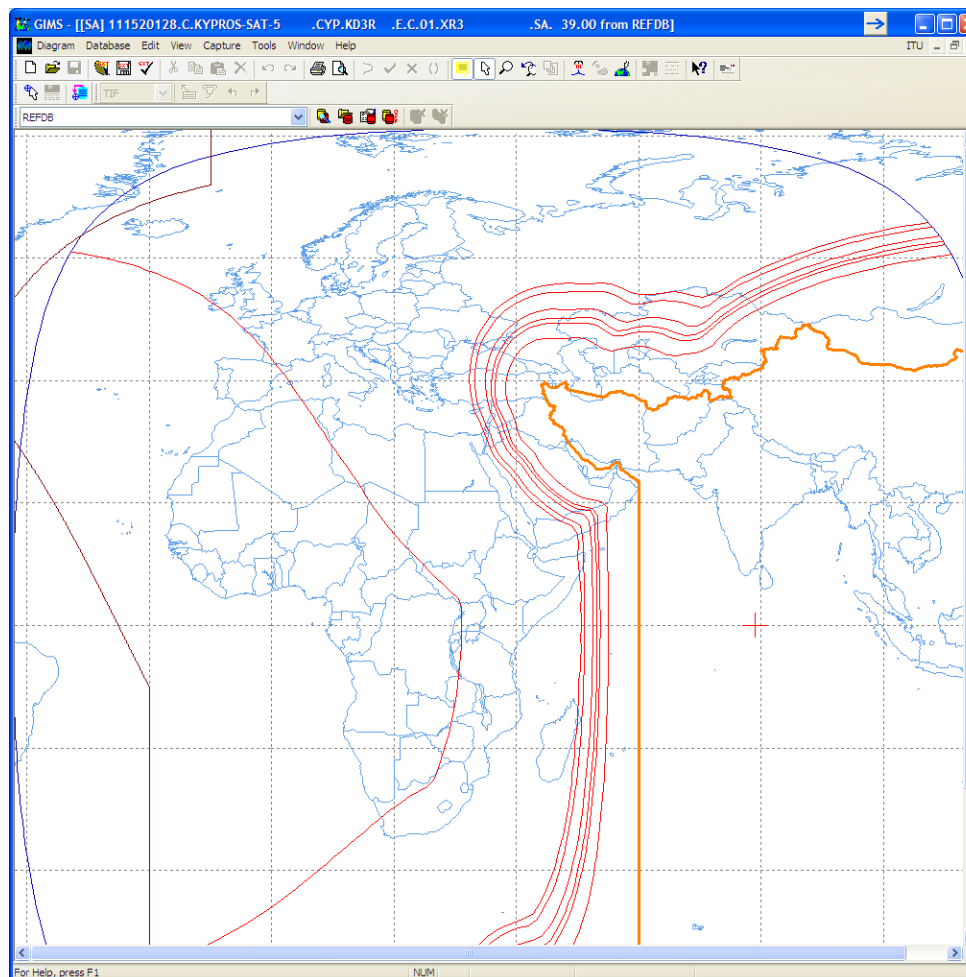
Space Applications Manager

GRAPHICAL DATA CAPTURE

Captures or view service areas, antenna gain contours and gain towards GSO orbit relating to GSO satellite networks; perform calculations

SpaceCap

GIMS



SAM

Space Applications Manager

VALIDATION

Checks for errors and completeness before submitting electronic notices to BR

SpaceCap

GIMS

SpaceVal

Space Validation 7.1.5 (04.02.2014)

Operator Id: NG

Database Type:
 Ingres: DSN
 MS-Access

User Role:
 As a BR user
 As an outside user

Database Info:
Location: c:\allresults\todo\113520220.mdb
Notice Id

Validation Options:
 Straps not provided - optional under Appendix 4 (WRC-2007)
 Check frequency overlap using assigned frequency bandwidth

Cross validation with Gims mdb file
Gims database:

Enter a Notice Id or select one from the drop-down list

Buttons: Open, Validate, Report, Help, Exit

SAM

Space Applications Manager

PUBLICATION

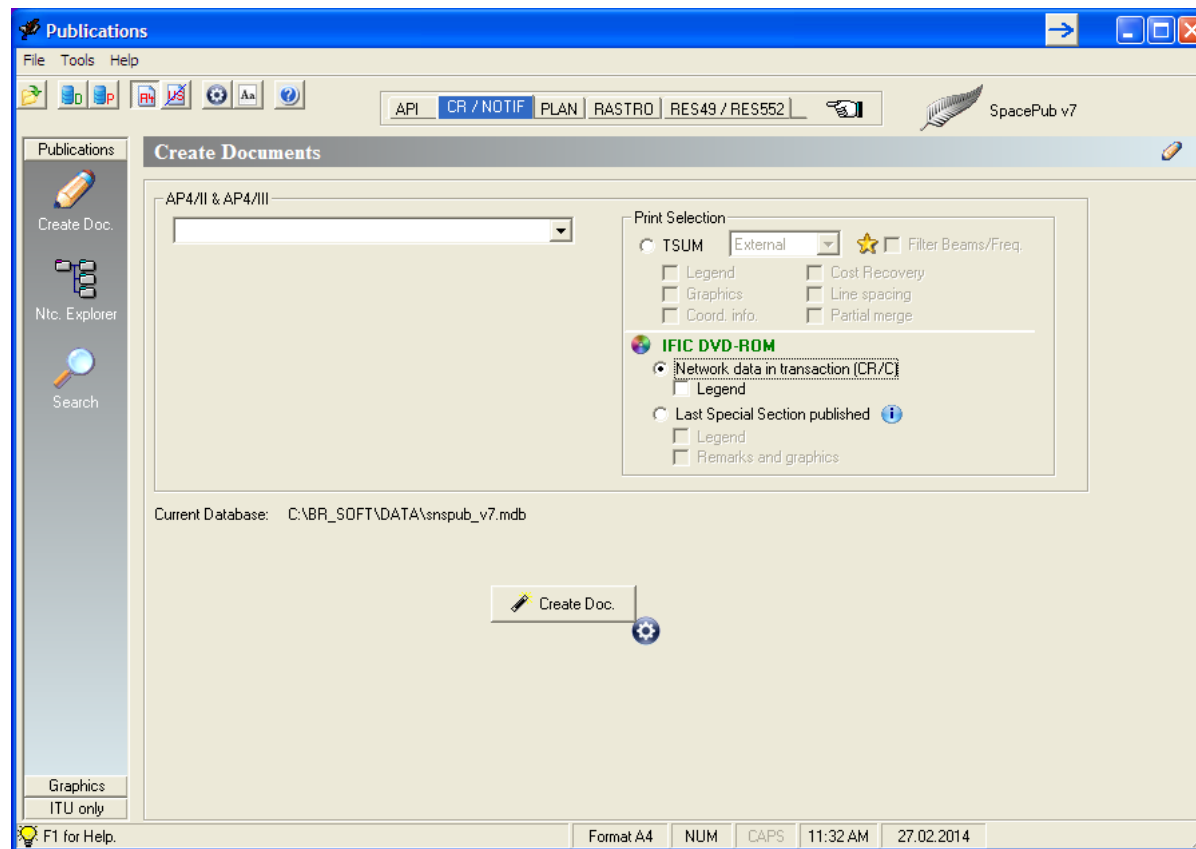
Extracts data from SNS-structured Access database and creates rich-text document suitable for printing or reading

SpaceCap

GIMS

SpaceVal

SpacePub



SAM

Space Applications Manager

SpaceCap

GIMS

SpaceVal

SpacePub

GIBC

BATCH CALCULATION

Determines PFD/EIRP hard limits and coordination requirements

GSO vs GSO (9.7, 9.21/A, 9.41)

GSO vs Plans (Ap30#7.1, Ap30A#7.1)

GSO vs Terrestrial (9.11, 9.14, 9.21/C)

The screenshot shows the 'GIBC SNS V7 - Graphical Interface for Batch Calculations' window. The interface includes a menu bar with 'Appendix 30 30A', 'EPFD', 'Power Control', 'Tools / Options', and 'Chaining Manager'. Below the menu bar, there are tabs for 'PFD', 'Appendix 8', 'PXT', 'Appendix 7', and 'Appendix 30B'. The main area contains several input fields and buttons: 'Operator ID' (text box with 'ng'), 'Network ID' (text box), 'Schedule' button, and 'Start' button. There is an 'Examination Data' section with a dropdown menu for 'Examination' (set to 'Hard Limits'), a text box for 'Power Control (dBW)' (set to '0'), and a dropdown menu for 'Output Level' (set to 'Level 1'). Below this is a '"Before" Examination' section with a checkbox for 'Perform "Before" Comparisons' (unchecked) and a 'Previous Networks' section with three text boxes. There is also a 'Files Path' section with a text box containing 'C:\BR_TEX_RESULTS\PFD\' and an 'Open Folder' button. At the bottom, there is a version string '7.5.0.0 Part of TEX 7.8.0.0' and an 'EXIT' button.

SAM

Space Applications Manager

COMMENTS/ OBJECTIONS

Manages comments and objections from Administrations covering provisions Nos. 9.41 and 9.52 (9.11, 9.11A, 9.21)

SpaceCap

GIMS

SpaceVal

SpacePub

GIBC

SpaceCom

The screenshot shows the SpaceCom v7 application window. The title bar reads "SpaceCom v7" and the menu bar includes "File", "Options", and "Help". The main window title is "Potentially affected Administration's comments under No. 9.52". The interface is divided into a left sidebar and a main content area. The sidebar contains icons for "Comment", "Import", "Validate/Send", and "View draft", along with a status bar showing "Not ADM" and "ITU BR". The main content area contains a form with the following fields and controls:

- Section: "1. Input information to get a list of CR/C(s) to comment"
- Field: "BR IFIC No. / Date" with a date picker icon and a slash separator.
- Field: "Expiry date for decision" with a date picker icon.
- Field: "BR IFIC database" with a dropdown menu and a refresh icon.
- Field: "Administration code / network org." with a dropdown menu and a slash separator.
- Field: "Comments file location" with a text input field.
- Button: "Get list of CR/C(s)..."
- Button: "Comment CR/C..."

SAM

Space Applications Manager

QUERY

Finds and retrieves information about networks from SNS-structured Access database

SpaceCap

GIMS

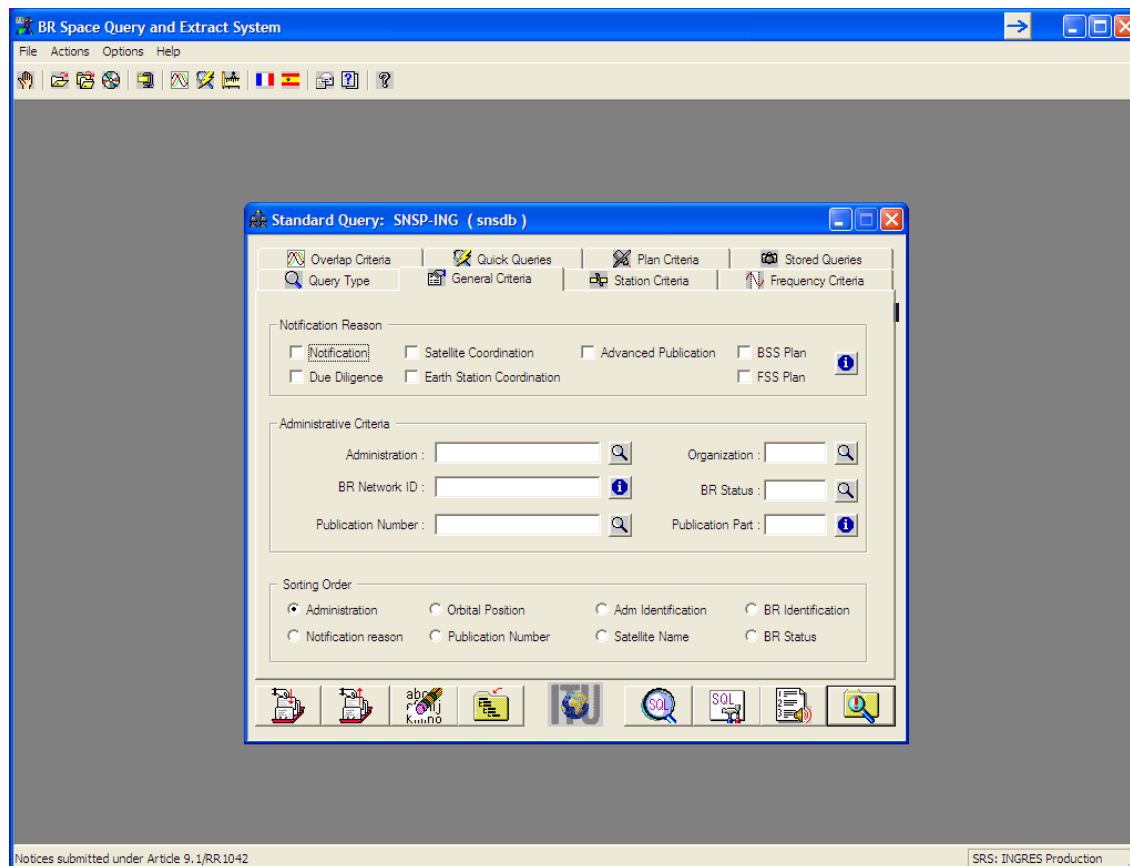
SpaceVal

SpacePub

GIBC

SpaceCom

SpaceQry



SAM

Space Applications Manager

SpaceCap



SpaceCap V7

GIMS



GIMS

SpaceVal



SpaceVal V7

SpacePub



SpacePub V7

GIBC



GIBC

SpaceCom



SpaceCom V7

SpaceQry



SpaceQry 7.0

SAM

Space Applications Manager

BR Databases

SpaceCap



SpaceCap V7

GIMS



GIMS

SpaceVal



SpaceVal V7

SpacePub



SpacePub V7

GIBC



GIBC

SpaceCom



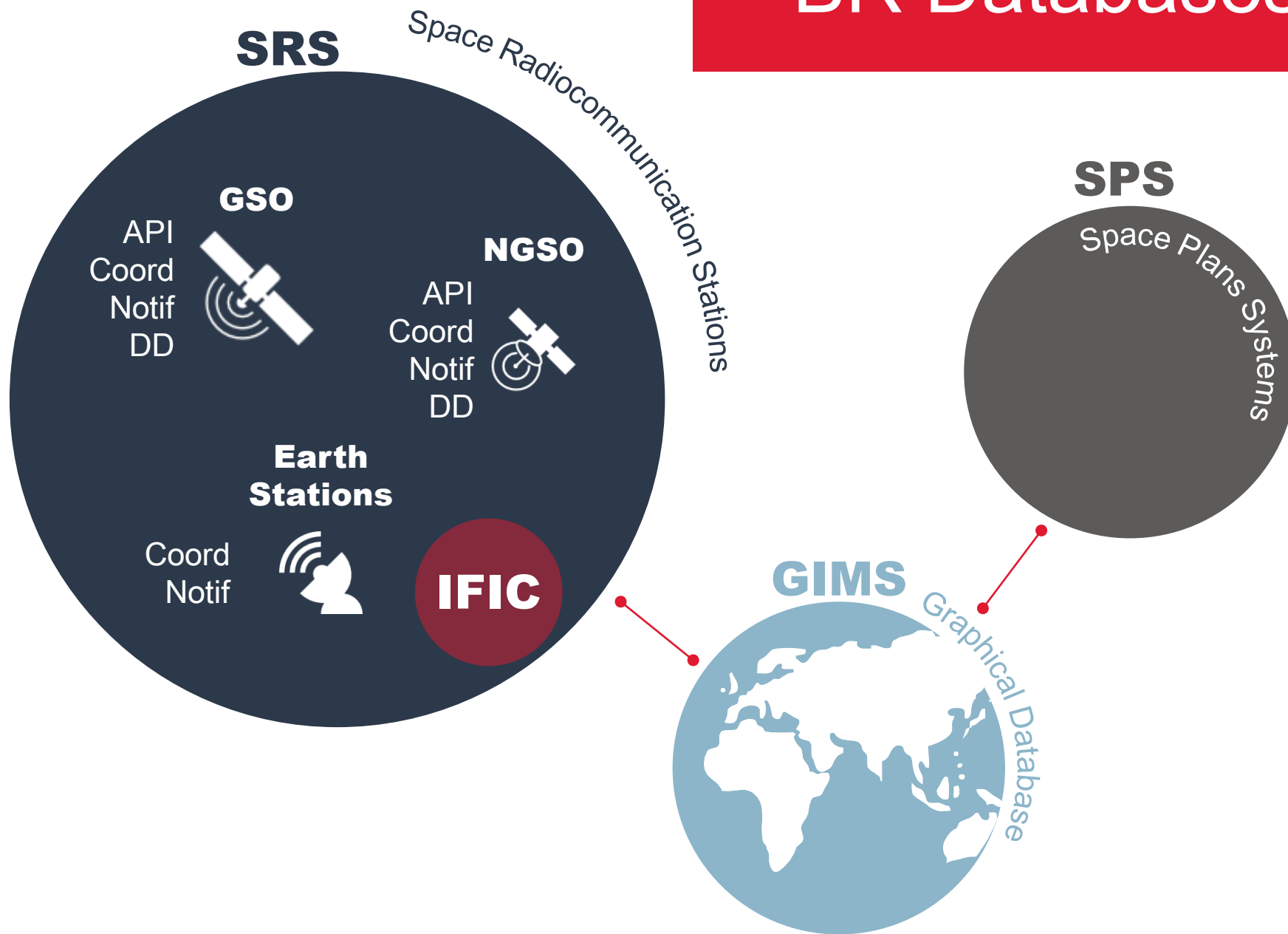
SpaceCom V7

SpaceQry

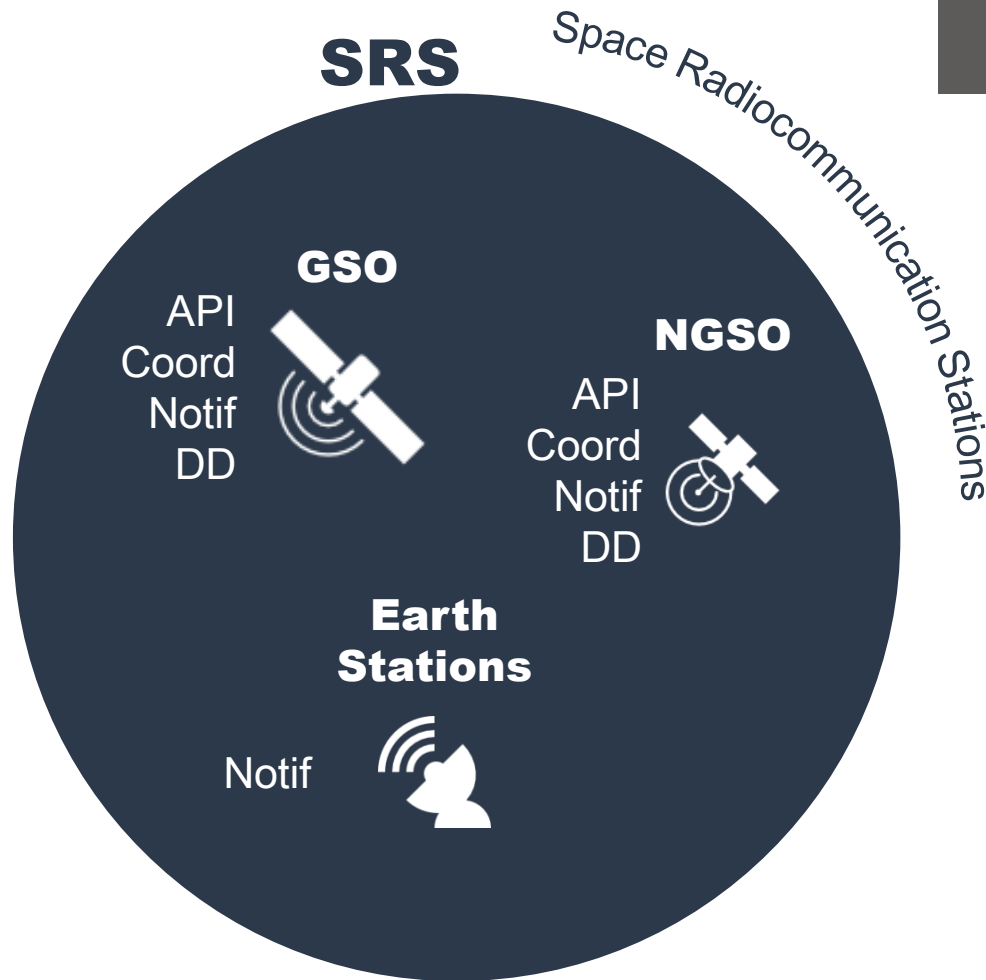


SpaceQry 7.0

BR Databases



BR Databases



SRS

SPACE RADIOCOMMUNICATION STATIONS

SRS

- Important database
- Available in BR IFIC DVD
- Contains alphanumeric data of **ALL** satellite networks and Earth stations
- API, Coordination Requests, Due Diligence, Notification, Recorded in MIFR
- Snapshot of Master Database at production time of BR IFIC

SpaceCap or SpaceQry for browsing

SpacePub for printing

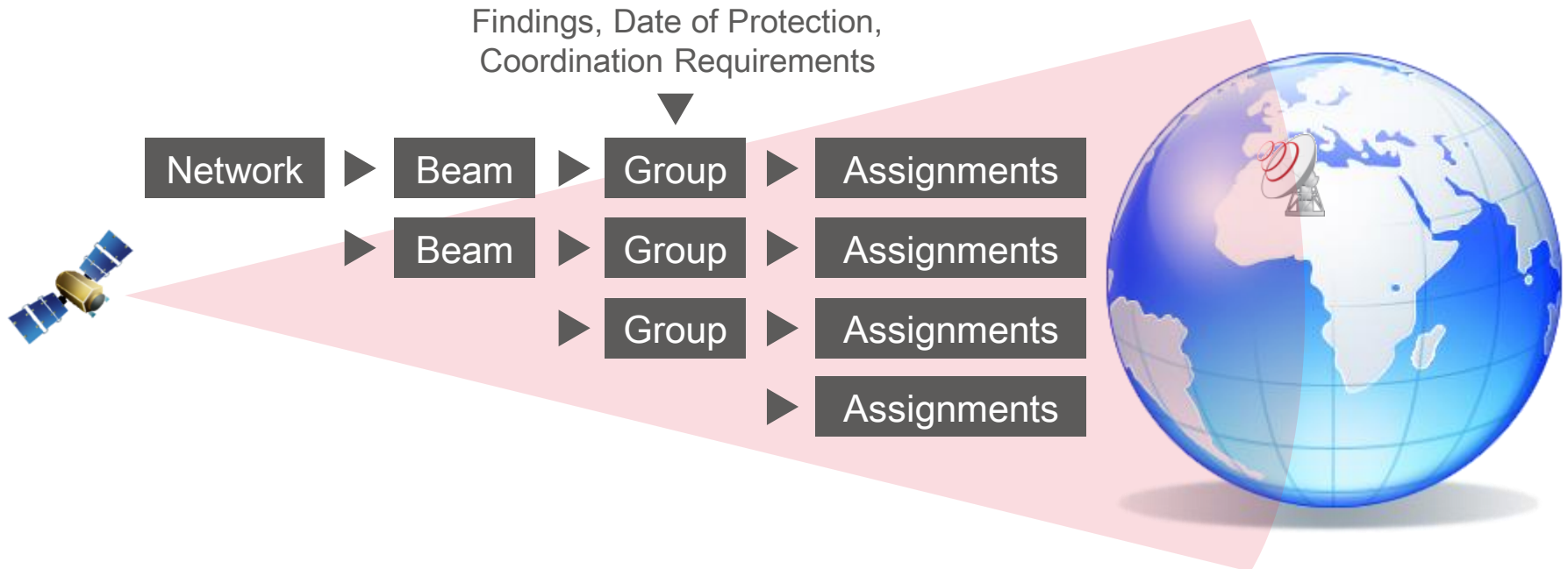
GIBC for examination

BR Databases

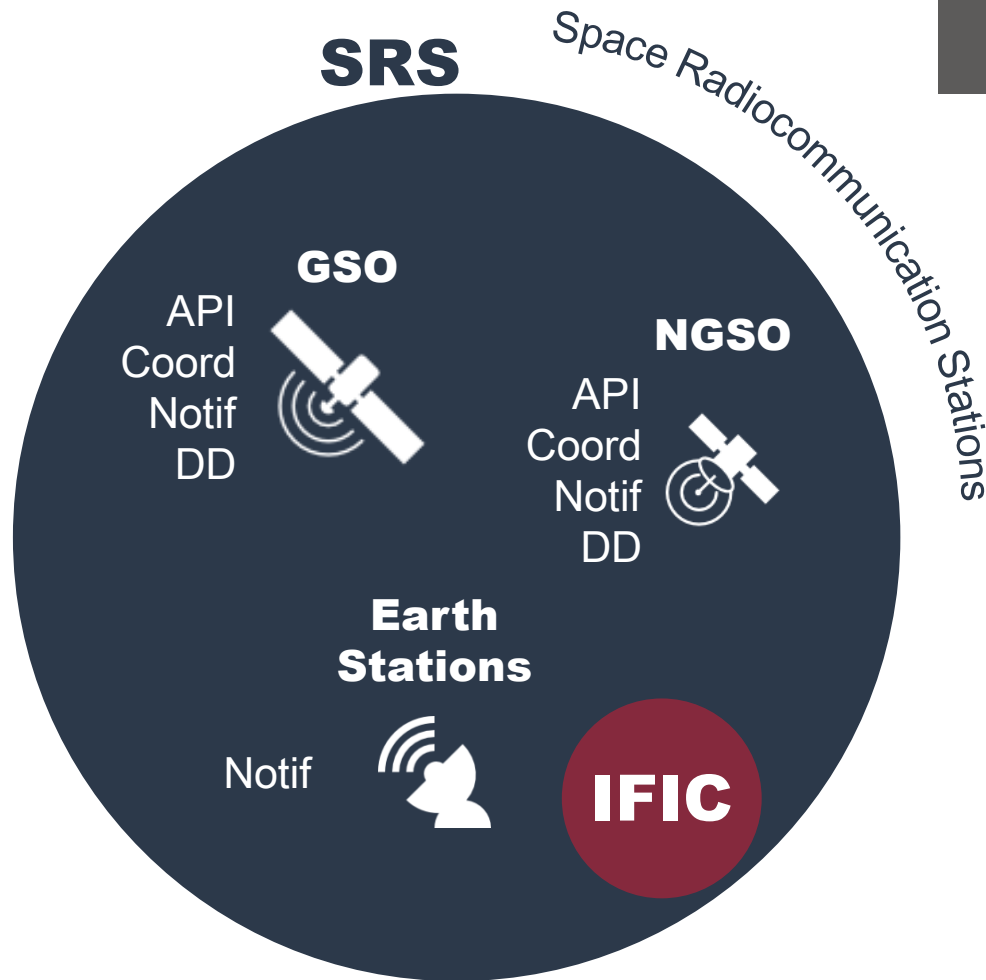
SPACE RADIOCOMMUNICATION STATIONS

Structure based on Appendix 4, Annex 2
(SNS-structured Access database)
Has 70+ tables and almost 2 GB

SRS



BR Databases



SRS

IFIC

INTERNATIONAL FREQUENCY INFORMATION CIRCULAR

SRS

IFIC



- Available in BR IFIC DVD and SNS Space IFIC webpage
- Contains alphanumeric data of satellite networks and Earth stations **currently published** in BR IFIC
- Same structure as SRS

SpaceCap or SpaceQry for browsing
SpacePub for printing
SpaceCom for commenting

BR Databases



SRS

IFIC

GIMS

BR Databases

GRAPHICAL DATABASE

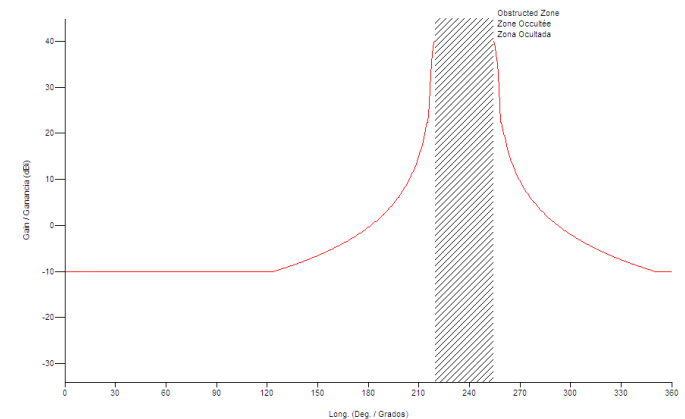
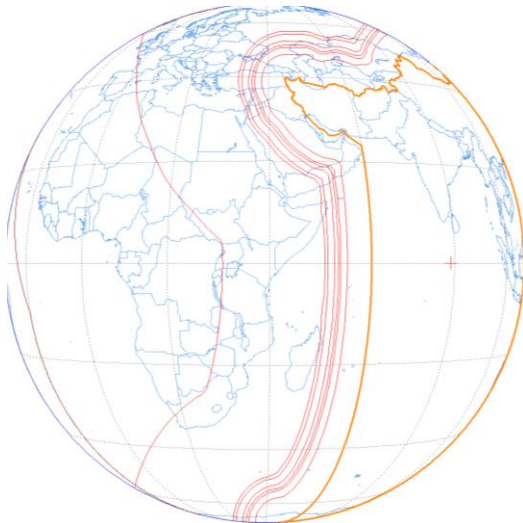
- Available in BR IFIC DVD
- Contains graphical data of **ALL** satellite networks
- Almost 700 MB

GIMS software for browsing
Needed by GIBC for examination

SRS

IFIC

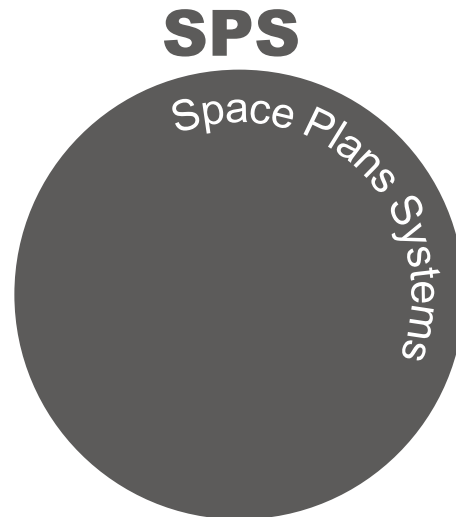
GIMS



SPACE PLANS DATABASE

- Available in BR IFIC DVD
- Contains data for Ap30/30A Plans

Needed by GIBC for coordination requirements



SRS

IFIC

GIMS

SPS

BR Databases

DRAFT CR/D DATABASE

- Available in BR IFIC DVD
- Merged comments from potentially affected administrations received by BR under Nos. 9.11, 9.11A and 9.21

Notifying administration to validate SpaceCom for viewing or validating

SRS

IFIC

GIMS

SPS

Draft CR/D

BR Databases

REFERENCE DATABASE

- Available in BR IFIC DVD and SpaceRefdb webpage
- Contains reference tables for BR Software

SRS

IFIC

GIMS

SPS

Draft CR/D

SpaceRef

SAM

Space Applications Manager

BR Databases

SpaceCap

GIMS

SpaceVal

SpacePub

GIBC

SpaceCom

SpaceQry

BR

SPACE APPLICATIONS

SRS

IFIC

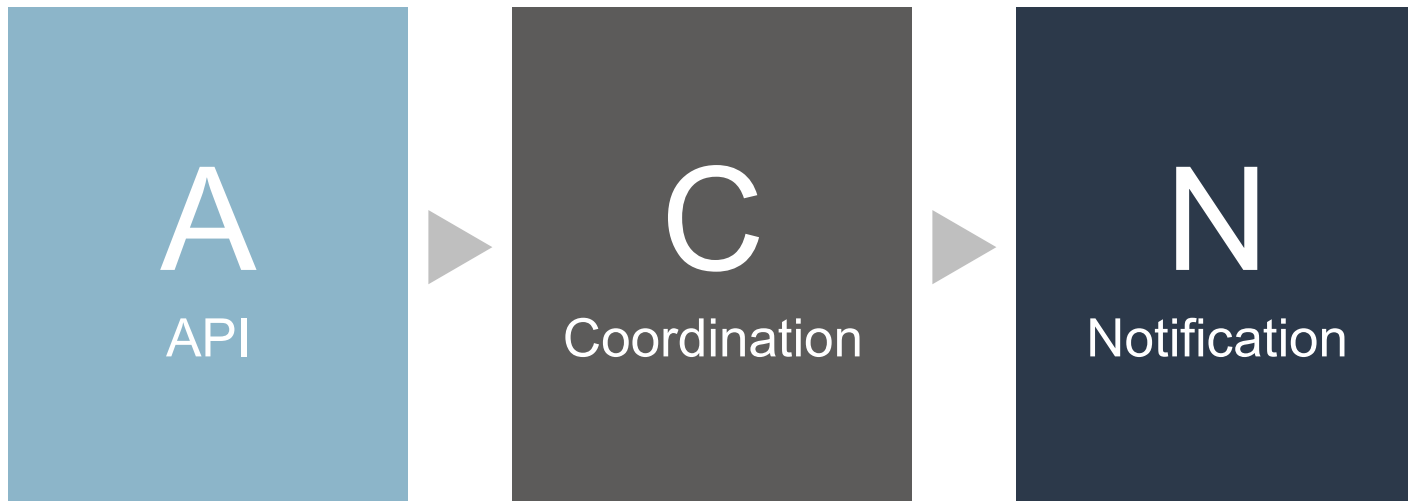
GIMS

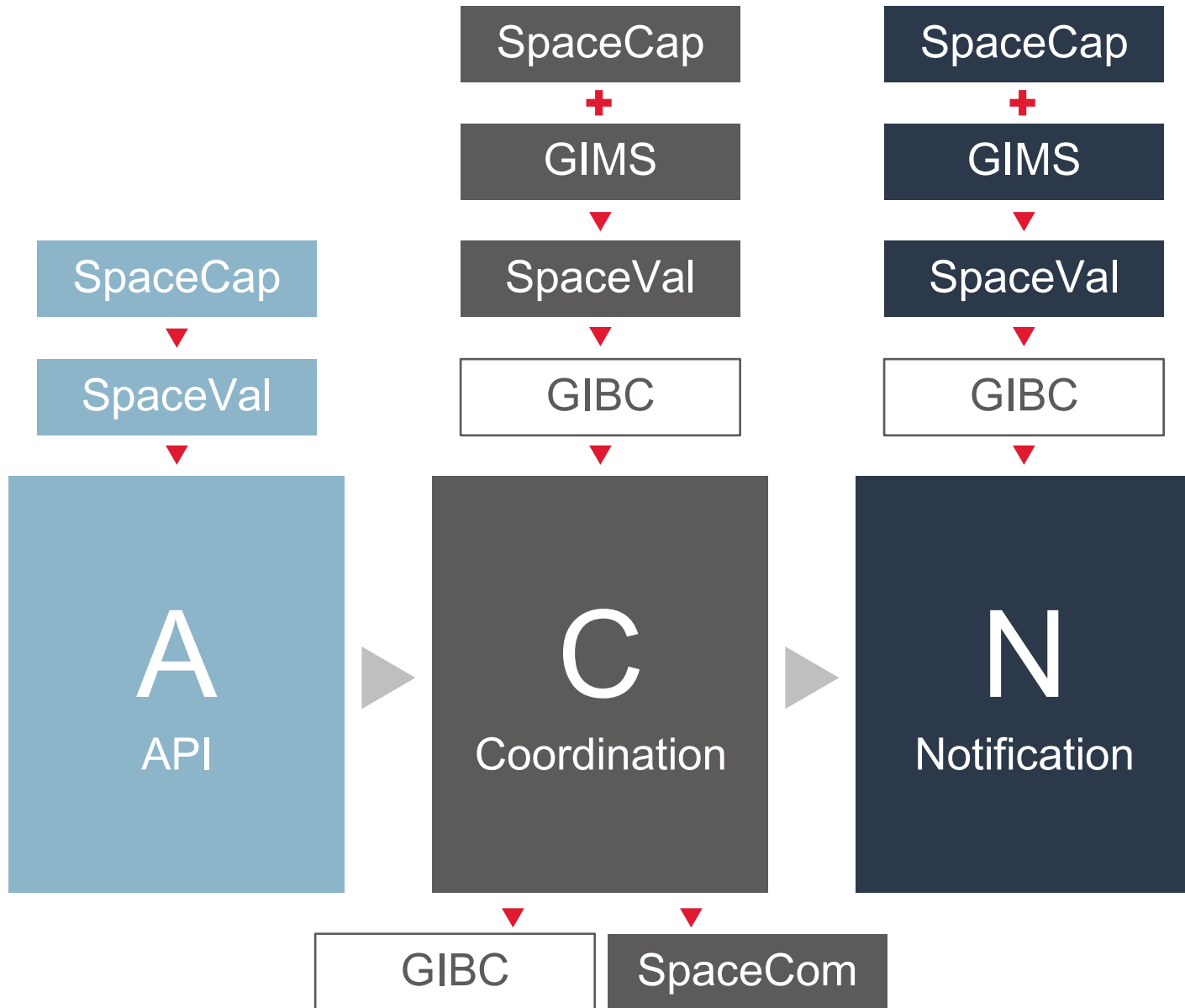
SPS

Draft CR/D

SpaceRef

TYPICAL SCENARIO





SAM

Space Applications Manager

BR Databases

SpaceCap

GIMS

SpaceVal

SpacePub

GIBC

SpaceCom

SpaceQry

BR

SPACE APPLICATIONS

SRS

IFIC

GIMS

SPS

Draft CR/D

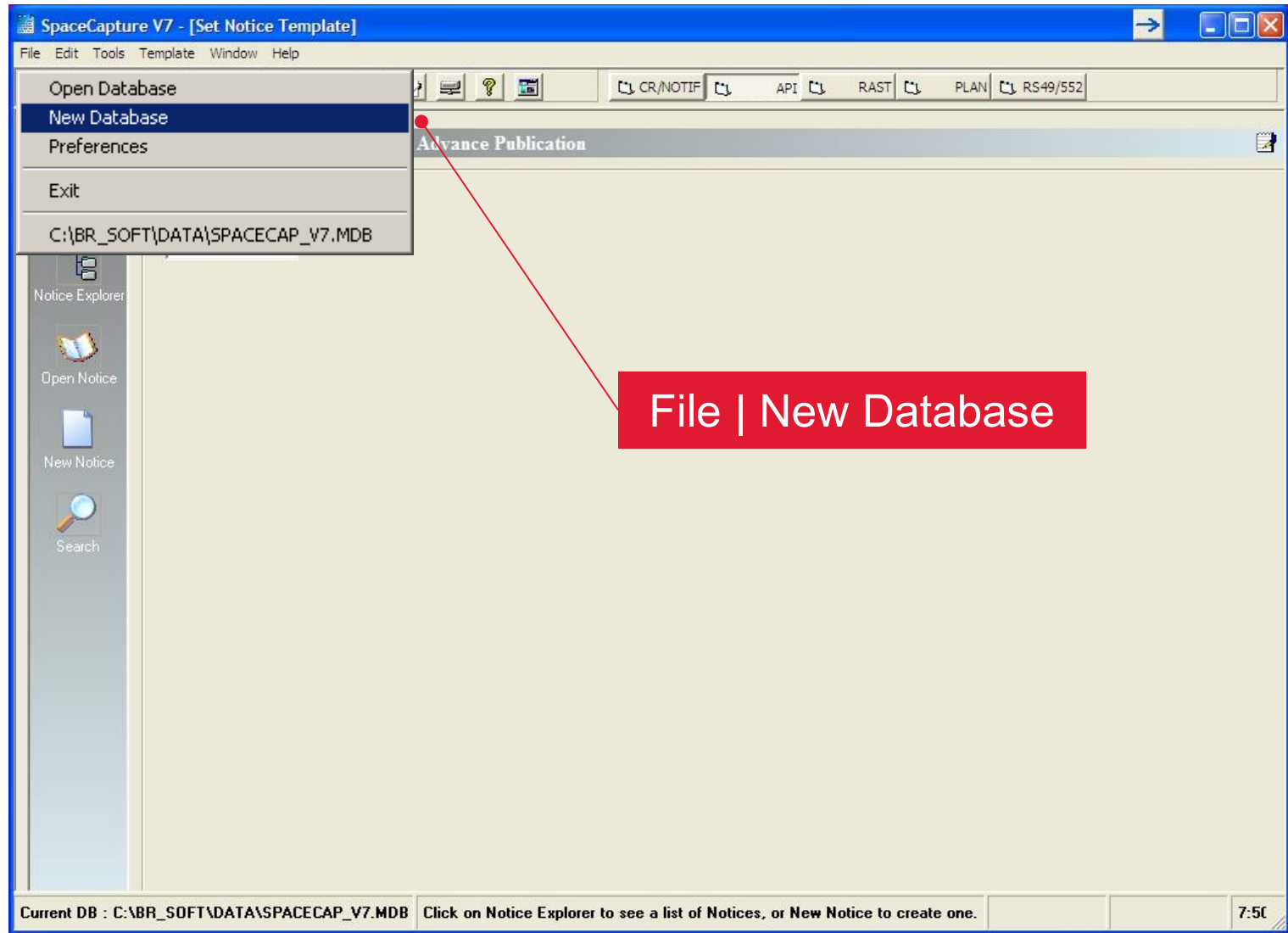
SpaceRef

SpaceCap

SpaceVal

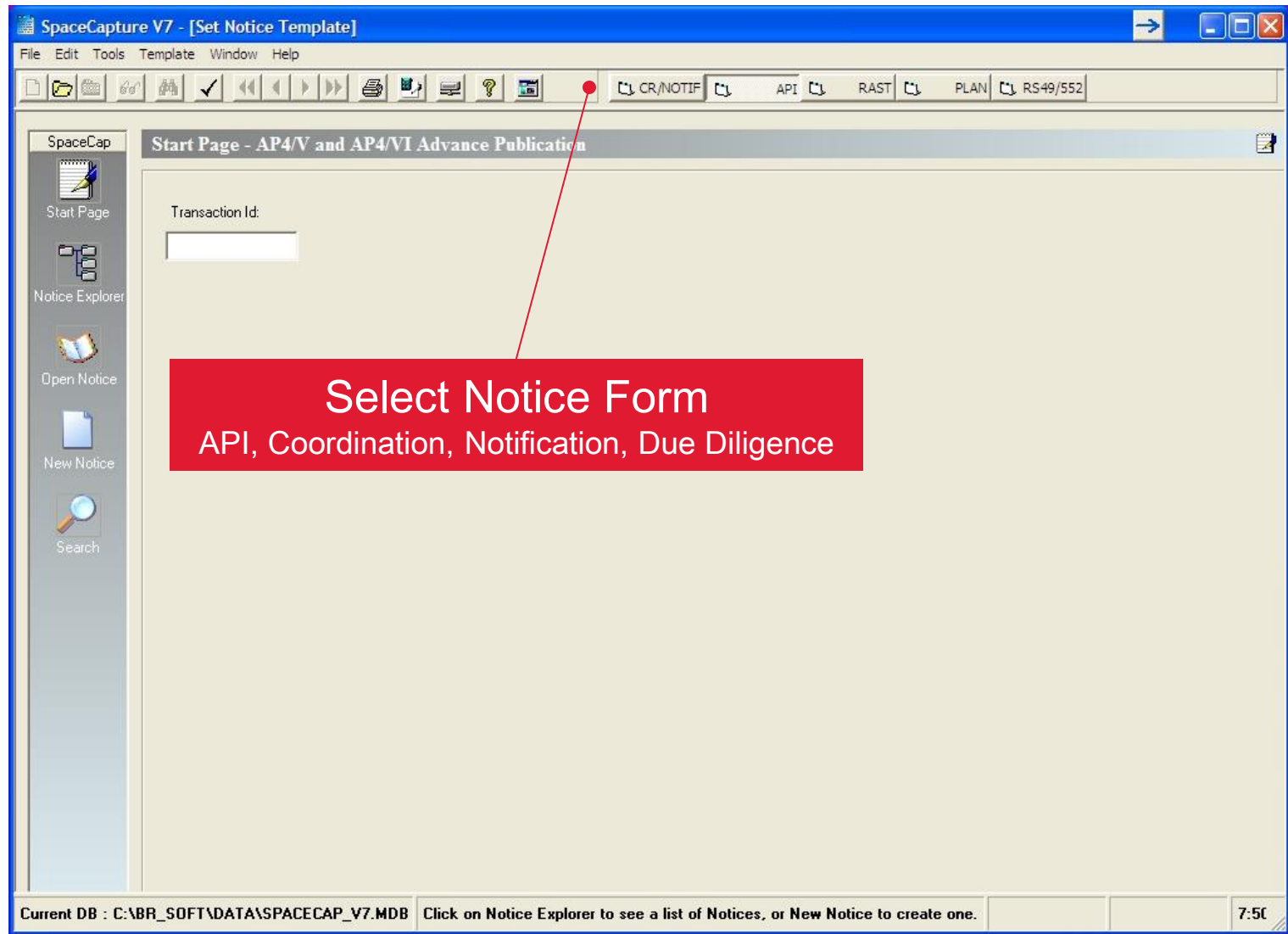
SpaceCap

SpaceVal



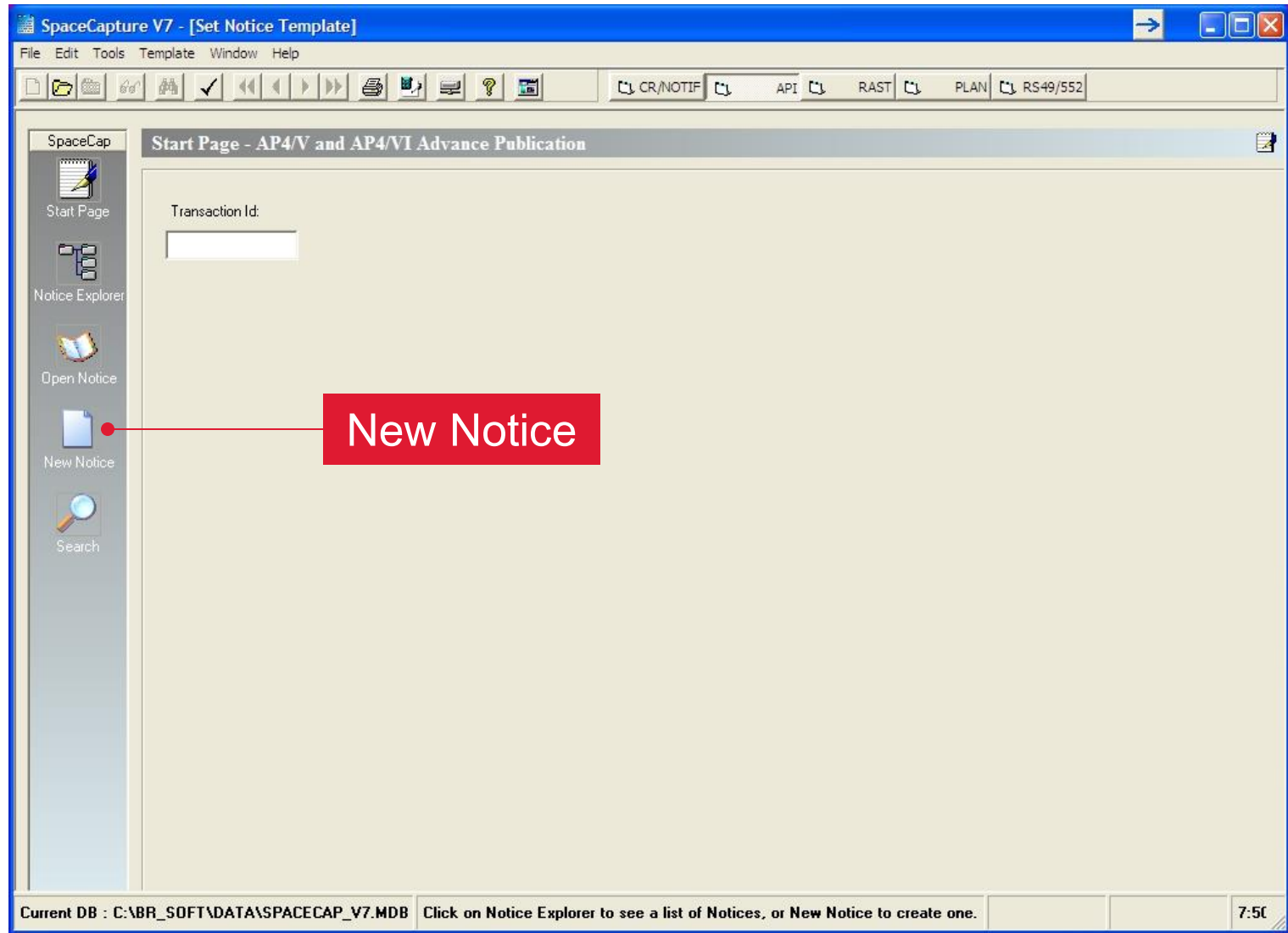
SpaceCap

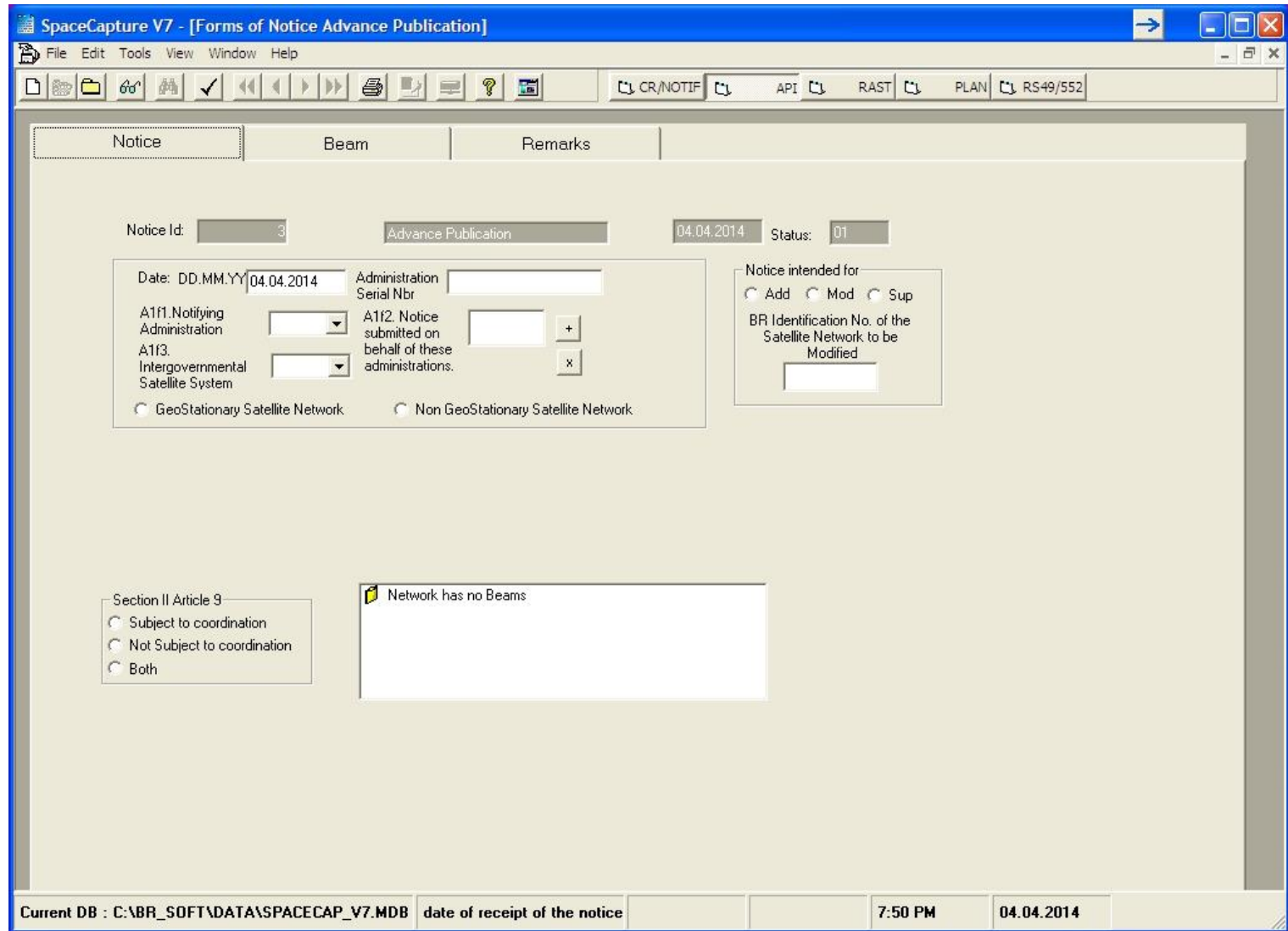
SpaceVal



SpaceCap

SpaceVal





SpaceCap

SpaceVal

SpaceCap

SpaceVal

SpaceCapture V7 - [Forms of Notice Ap4/II and Ap4/III]

File Edit Tools View Window Help

CR/NOTIF API RAST PLAN RS49/552

Notice Station Beam Strapping Noise Gamma Attachments

Notice Id: 3 AP4/II and AP4/III (Appendix 4 - Annex 2A) 04.04.2014 Status 01

Notice submitted under:

No. 9.6 Coordination No. 11.2 Notification First Notification Resubmission

No. 9.11A Applies Bands 21.4 to 22 GHz Bands 21.4 to 22 GHz Special Procedure

No. 9.7A Specific Receive GSO FSS Earth stn Coordination

No. 9.17 Earth Station Coordination amongst Administrations

Date: DD.MM.YY 04.04.2014 Administration Serial Nbr

A1f1. Notifying Administration A1f2. Notice submitted on behalf of these administrations. +

A1f3. Intergovernmental Satellite System x

Notice intended for

Addition Modification Suppression

BR Identification No. of Station to be modified/suppressed

Type of Satellite Network or Earth Station

GeoStationary Satellite Network Specific Earth Station

NonGeoStationary Satellite Network Typical Earth Station

More...

Current DB : C:\BR_SOFT\DATA\SPACECAP_V7.MDB 7:51 PM 04.04.2014

Take note of database

SpaceCap

SpaceVal

Space Validation 7.1.5 (04.02.2014)

Operator Id: NG

Database Type:
 Ingres: DSN
 MS-Access

User Role:
 As a BR user
 As an outside user

Database Info:
Location:
Notice Id

Cross validation with Gims mdb file
Gims database:

Click on the <Explorer> button to select and open a database

Open
Validate
Report
Help
Exit

Open database

SpaceCap

SpaceVal

Space Validation 7.1.5 (04.02.2014)

Operator Id: NG

Database Type:
 Ingres: DSN
 MS-Access

User Role:
 As a BR user
 As an outside user

Database Info:
Location: c:\allresults\todo\113520227.mdb
Notice Id: 113520227 F-SAT-N3-55.2W

Validation Options:
 Straps not provided - optional under Appendix 4 (WRC-2007)
 Check frequency overlap using assigned frequency bandwidth

Cross validation with Gims mdb file
Gims database:

Select Validation / Error Msg options and Start Validation

Open
Validate
Report
Help
Exit

Click Validate

SpaceCap

SpaceVal

Space Validation 7.1.5 (04.02.2014)

Operator Id: NG

Database Type:
 Ingres: DSN
 MS-Access

User Role:
 As a BR user
 As an outside user

Database Info:
Location: c:\allresults\todo\113520227.mdb
Notice Id: 113520227 F-SAT-N3-55.2W

Validation Options:
 Straps not provided - optional under Appendix 4 (WRC-2007)
 Check frequency overlap using assigned frequency bandwidth

Cross validation with Gims mdb file
Gims database:

Validation completed. Click on the <Report> button to view results

Open
Validate
Report
Help
Exit

View Report

SpaceCap

SpaceVal

SNS Validation Errors

Rule Report First Prev Next Last Space Rules Earth Rules Plan Rules Items

Summary Fatal Export

Check & correct fatal errors

Validation Report for 113520227 User NG created on 04.04.2014 7:54:30 PM with SpaceVal 7.1.5
C:\ALLRESULTS\TODD\113520227.mdb

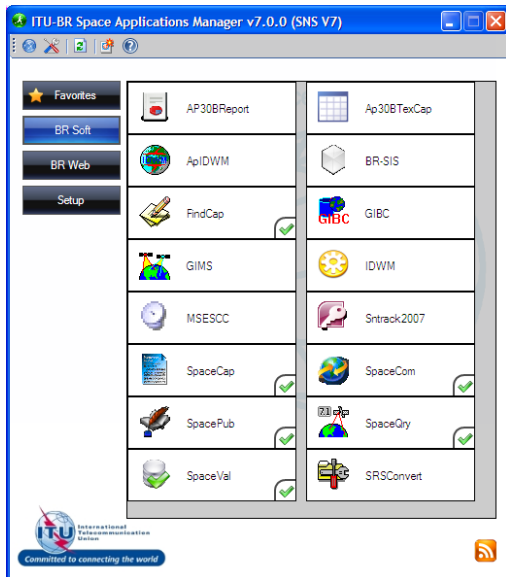
Ntc ID: 113520227 Adm: F Sat Name: F-SAT-N3-55.2W Orb Pos: -55.2 Action:A Status:01 D_RCV: 21.12.2013
Fatal Errors: 0 Warnings: 72

Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
UK1R	R	113729203	emiss	pep_min	-47.2	9 672	2	W	C8c1	Invalid value	
		113729204		pep_min	-47.2	7 672	2	W	C8c1	Invalid value	
UK2R		113729182	e_as_stn	ant_diam	0.45	1 710	2.2	W	C10d7/d8	Antenna diameter too small for geostationary satellite system using	
		113729183		ant_diam	0.6	1 710	2.2	W	C10d7/d8	Antenna diameter too small for geostationary satellite system using	
		113729184		ant_diam	0.8	1 710	2.2	W	C10d7/d8	Antenna diameter too small for geostationary satellite system using	
		113729185		ant_diam	1.2	1 710	2.2	W	C10d7/d8	Antenna diameter too small for geostationary satellite system using	
		113729186		ant_diam	2.4	1 710	2.2	W	C10d7/d8	Antenna diameter too small for geostationary satellite system using	
			emiss	pep_min	-40.8	9 672	2	W	C8c1	Invalid value	
		113729187	e_as_stn	ant_diam	3.5	1 710	2.2	W	C10d7/d8	Antenna diameter too small for geostationary satellite system using	
			emiss	pep_min	-44.1	9 672	2	W	C8c1	Invalid value	
			pep_min	-47.2	9 672	2	W	C8c1	Invalid value		
UK3R		113729189		pep_min	-50.1	9 672	2	W	C8c1	Invalid value	
		113729209		pep_min	-40.8	9 672	2	W	C8c1	Invalid value	
		113729210		pep_min	-44.1	9 672	2	W	C8c1	Invalid value	
		113729211		pep_min	-47.2	9 672	2	W	C8c1	Invalid value	
UKR		113729212		pep_min	-50.1	9 672	2	W	C8c1	Invalid value	
		113729178		pep_min	-40.8	9 672	2	W	C8c1	Invalid value	
		113729179		pep_min	-44.1	9 672	2	W	C8c1	Invalid value	
		113729180		pep_min	-47.2	9 672	2	W	C8c1	Invalid value	
		113729181		pep_min	-50.1	9 672	2	W	C8c1	Invalid value	
		113732912		pep_min	-40.8	9 672	2	W	C8c1	Invalid value	
		113732913		pep_min	-40.8	9 672	2	W	C8c1	Invalid value	
113732914		pep_min	-44.1	9 672	2	W	C8c1	Invalid value			



Send to BRMail@itu.int

- Validated database with no fatal errors
- Send mail/fax (+41 22 730 57 85)
confirmation within 7 days



FINAL POINTS

- Install from BR IFIC DVD or website
- Use databases of latest BR IFIC DVD
- Get help from ITU BR Seminar webpage or brsas@itu.int

Overview

BR Space Applications for Non-Planned Services

Hon Fai Ng

Space Services Department

