

ITUEvents

ITU World Radiocommunication Seminar 2018

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Geneva, Switzerland

www.itu.int/go/ITU-R/WRS-18



BR Space Databases

By Dr. Hanane NACIRI
Radiocommunication &
Software Engineer
ITU-R

ITU HQ Geneva,
4 December, 2018

BR Space Databases



Why?

- Purpose of BR Databases and Software

What are they?

- What is in BR Databases?

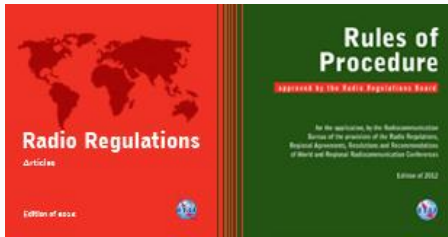
Format and Version

- SNS Format and Versioning

Purpose of BR Databases and Software

Radio Regulations

Incorporate the decisions of the World Radiocommunication Conference



Rules of Procedure

Complement the RR by providing clarification of the application of particular Regulations

BR Space
Databases
& Software

Streamline the Implementation of the RR and Rules of Procedure

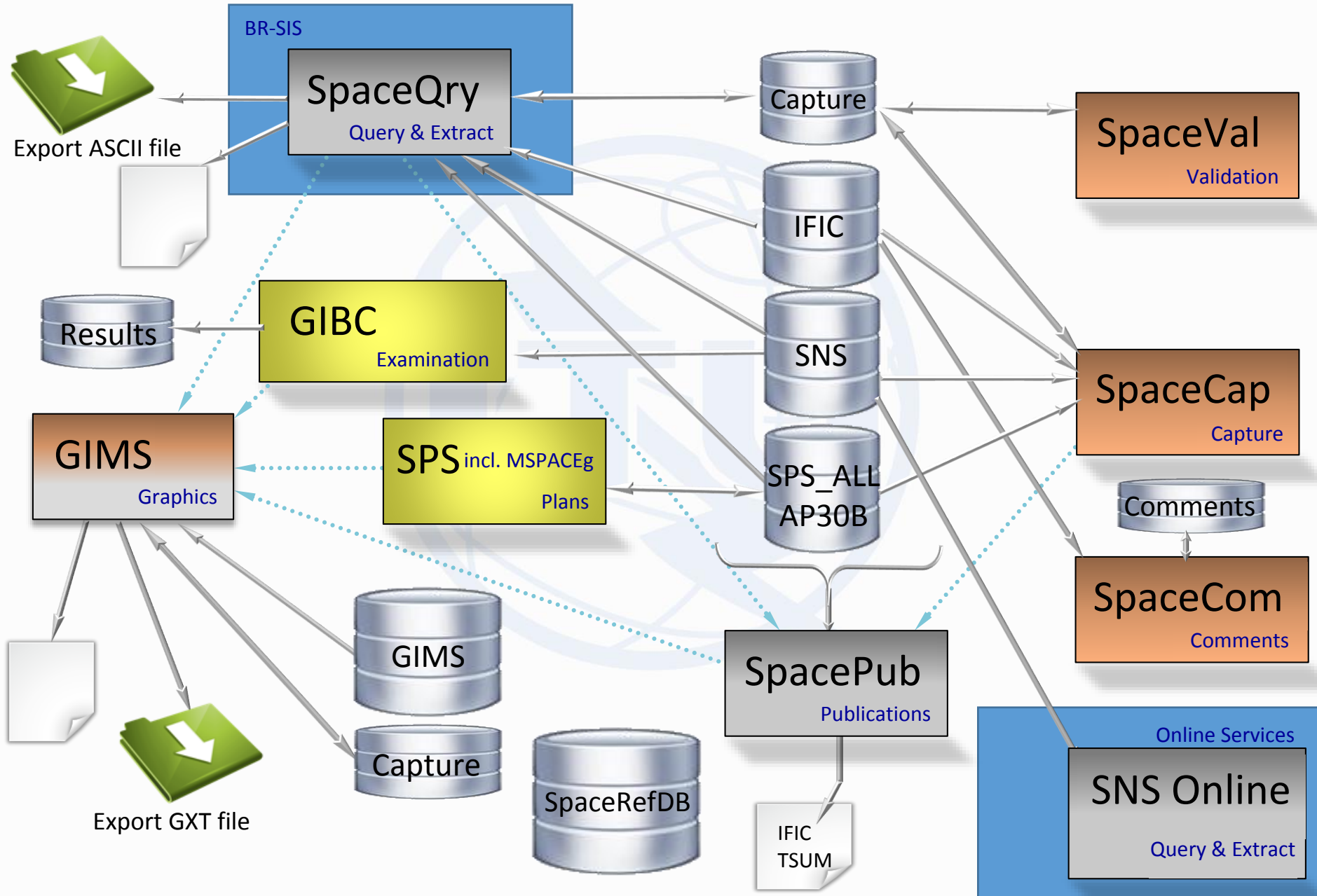


Help you prepare electronic filings according to the RR

Process the electronic filings sent to the BR



Space Network System



BR Space Databases



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BR Space Databases



SNS Format

SNS Master

IFICXXX

SRS

Capture

SPS
AP30B

ALPHANUMERIC
DATA

Appendix 4
Annex 2 of the
Radio Regulations

GIMS Database

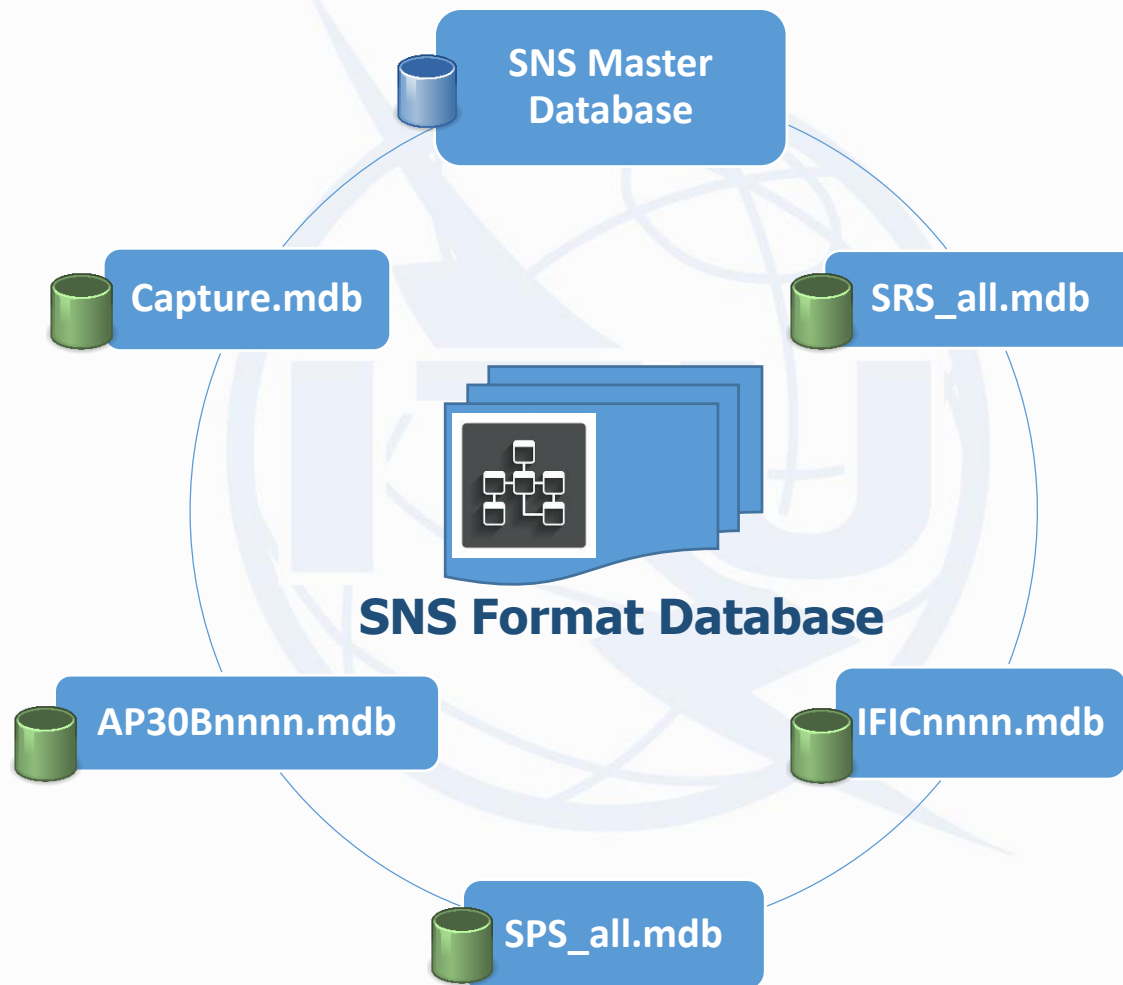
ESCC Database

GRAPHICAL
DATA

Space Reference Database

REFERENCE
DATA

SNS Format Databases



SNS Format Databases

SNS Master Database



In the **Master Register**

- Coordination and Notification
- Advance Publication of Information
- Due Diligence (Resolution 49)

Electronic Filings received by the BR



- New assignments
- Mod of existing
- Delete existing

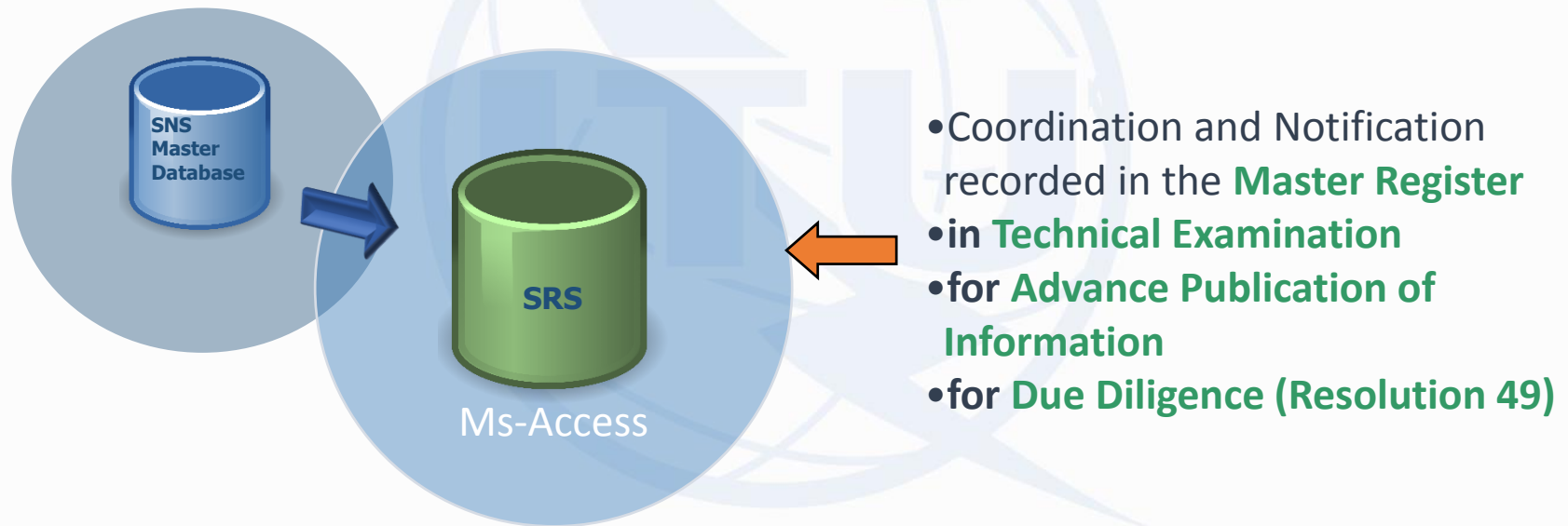
Notifications in Technical Examination

SNS Format Databases

SRS_all.mdb on the BR SPACE IFIC DVD



- Published every IFIC DVD (2 weeks)
- Snapshot of the SNS Master Database



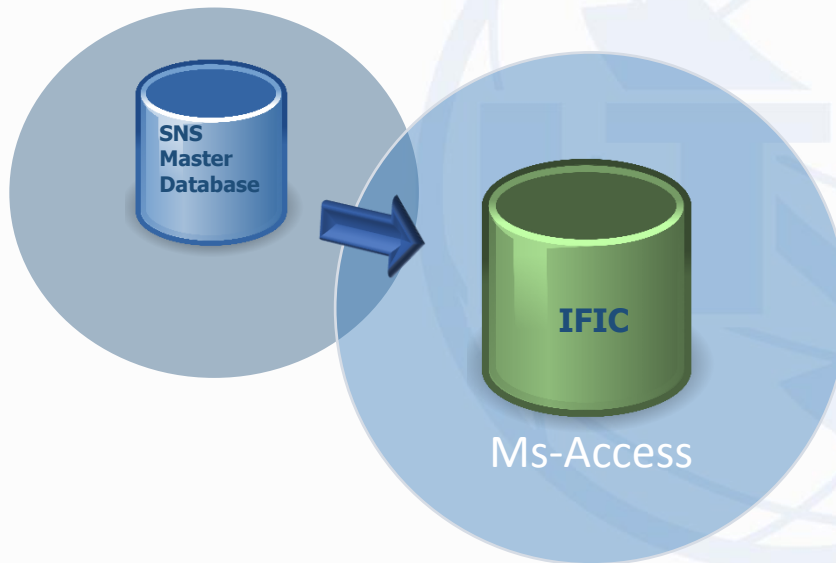
Space Radiocommunication Stations (SRS)

SNS Format Databases

IFICnnnn.mdb on the BR IFIC DVD



- Published every IFIC DVD (2 weeks)



- **Part IS** – new frequencies or modifications, cancellations of assignments in the Master Register received by the BR
- **Part IIS** – Updates to the Master Register with Findings
- **Part IIIS** – Notifications returned to ADM with unfavourable findings
- **Special Sections** – Notifications published API/A, CR/C, CR/D, CR/E, CR/F

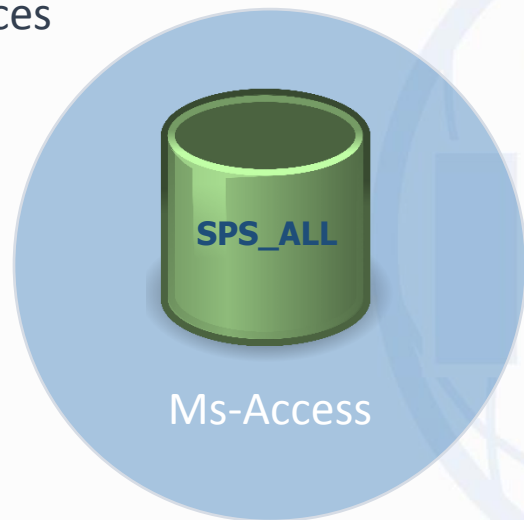
SNS Format Databases

SPS_ALL.mdb on the BR IFIC DVD



- **Published every IFIC DVD (2 weeks)**

Technical characteristics and reference situation for networks of the planned space services



Space Plan System (SPS)

- **Appendices 30/30A**
 - Region 1 and 3 Plan, List and pending Article 4 networks
 - Pending Article 2A networks of Appendices 30 and 30A
- **RARC SAT-R2 Region 2 Plan**
- **Article 5 of Appendices 30 and 30A**
- **Due Diligence (Resolution 49)**

- **Download from**

<http://www.itu.int/en/ITU-R/space/plans/Pages/AP30-30A.aspx>

SNS Format Databases

Appendix 30B Database on the BR IFIC DVD



- **Published every IFIC DVD (2 weeks)**

Technical characteristics and reference situation for networks of the planned space services



- **Appendix 30B**

- Plan, List and Pending Article 6 networks
- Article 8 of Appendix 30B

- **Due Diligence (Resolution 49)**

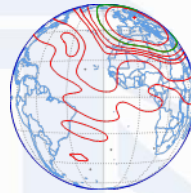
- **Download from**

<http://www.itu.int/en/ITU-R/space/plans/Pages/AP30B.aspx>

Graphical Data

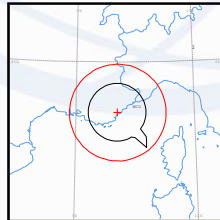
➤ GIMS diagrams

- Appendix 4 – GSO and Non GSO Satellites
- Contains Graphical data for both Non-plan and Plan



➤ ESCC Diagrams

- Earth Stations Coordination Contours

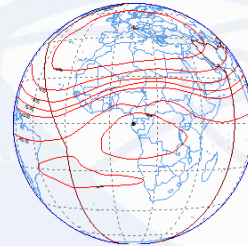
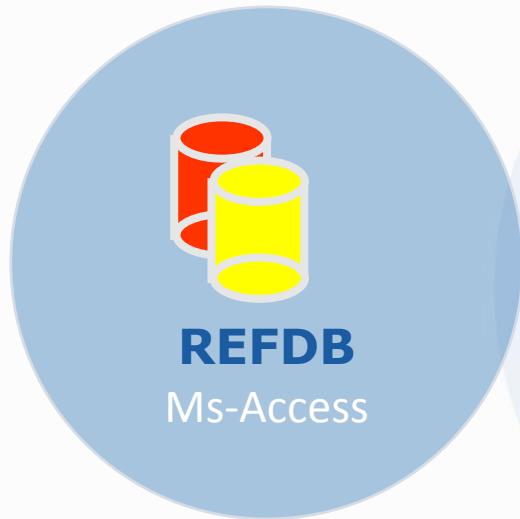


Graphical Data

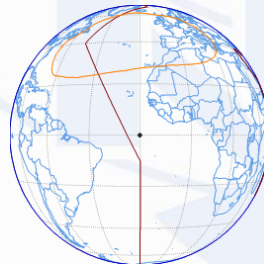
GIMS Database



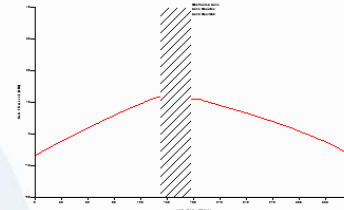
- Published every IFIC DVD (2 weeks)



Antenna Gain Contours

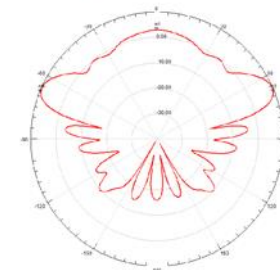


Service Area



AG/GSO

SPACE STATION TRANSMITTING ANTENNA RADIATION PATTERN



Non GSO (saved as pictures)

Graphical Data for GSO and Non GSO Satellites

- used by Technical Examination software
- Available in IFIC DVD (`grefdbnnnn.mdb`) and accessible via GIMS software (REFDB)

Graphical Data

ESCC Database



Master Repository for Earth Station Coordination Contours

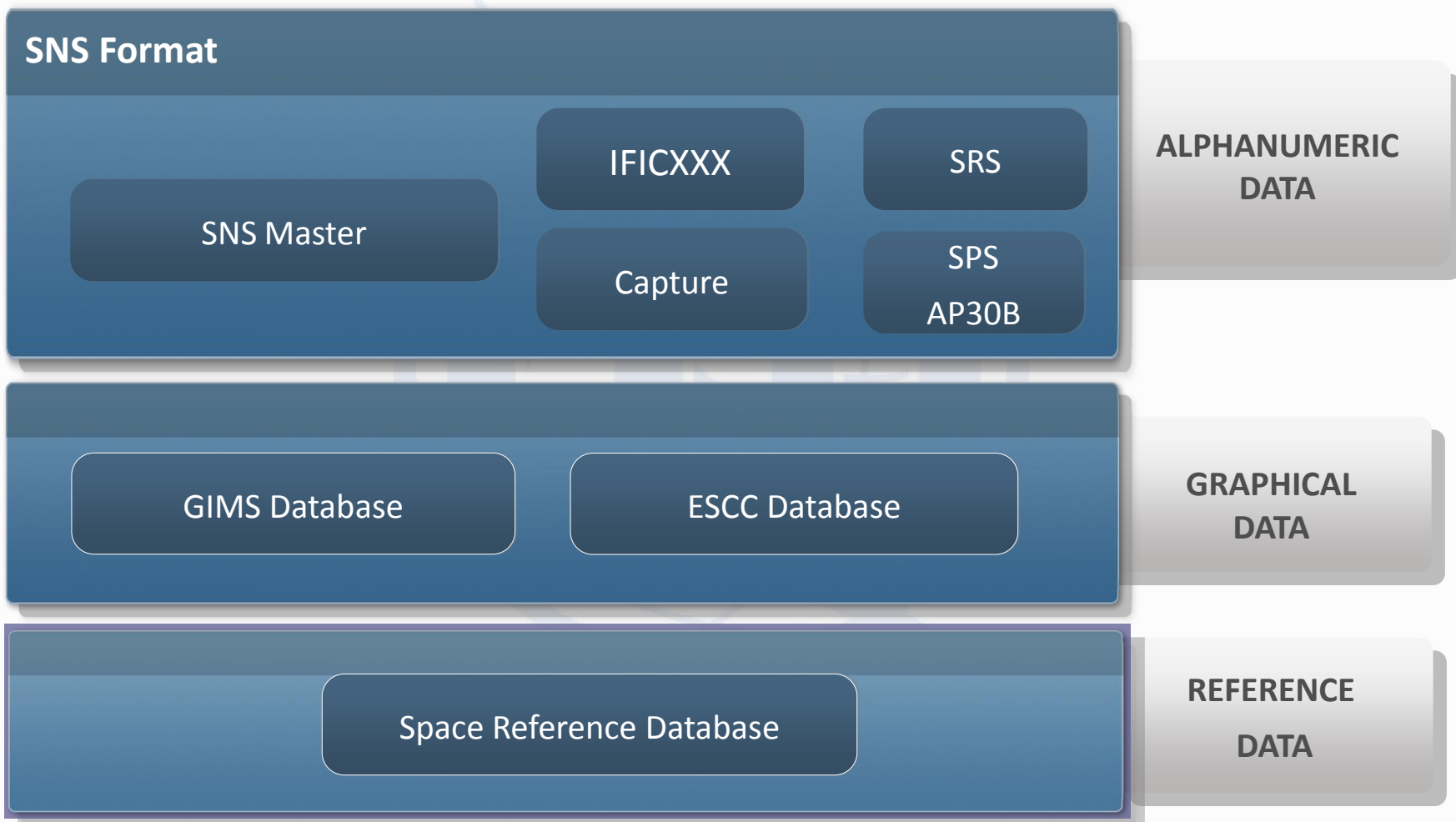


Generated by the Appendix 7 software

Graphical Data for **Earth Stations**

- used in-house
- used by Technical Examination software
- available in the IFIC DVD

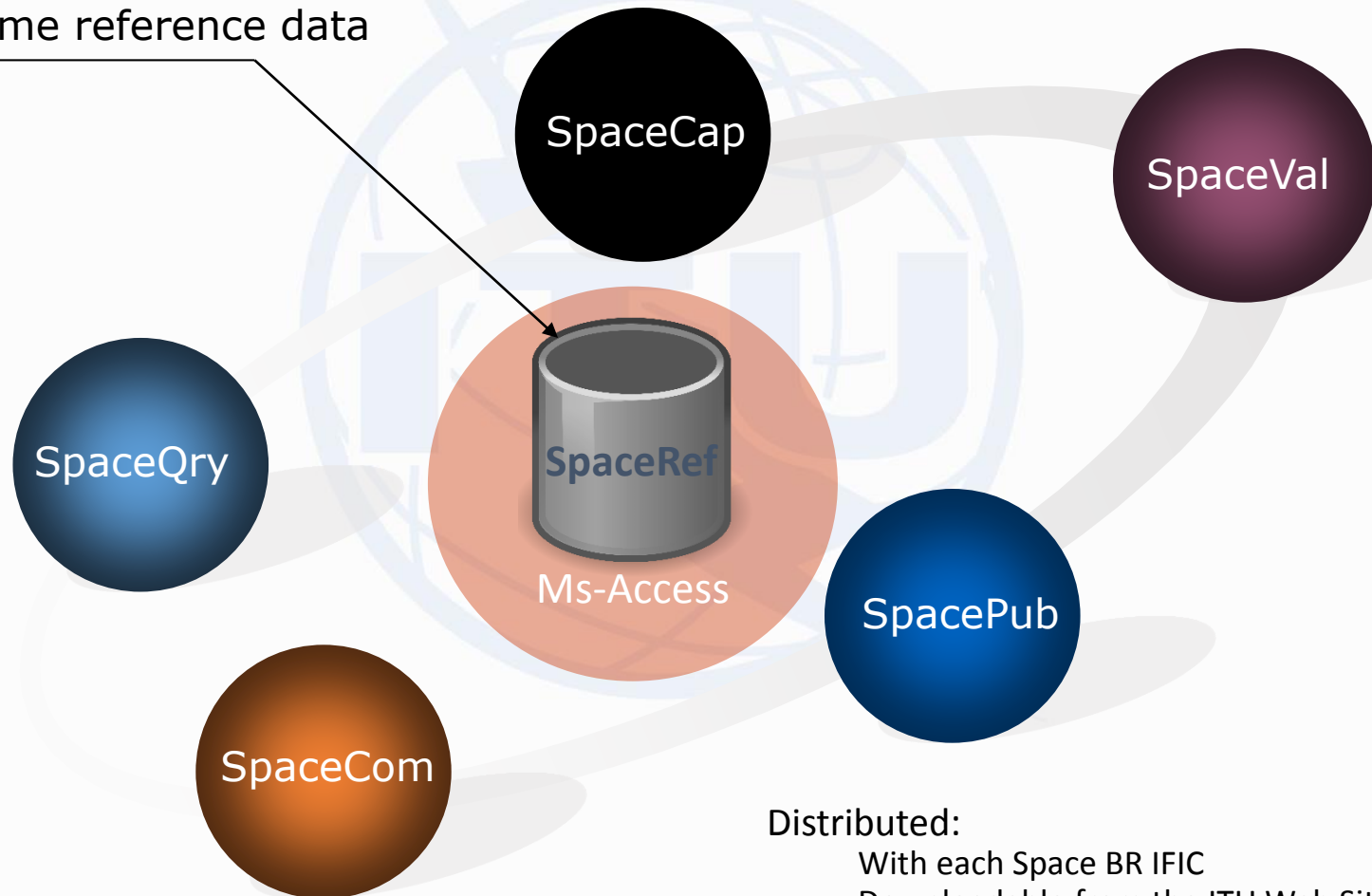
BR Space Databases



Space Reference Database



Ensures all BR Software use
the same reference data



Distributed:

With each Space BR IFIC

Downloadable from the ITU Web Site

BR Space Databases



Why?

- Purpose of BR Databases and Software

What are they?

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Format and Version

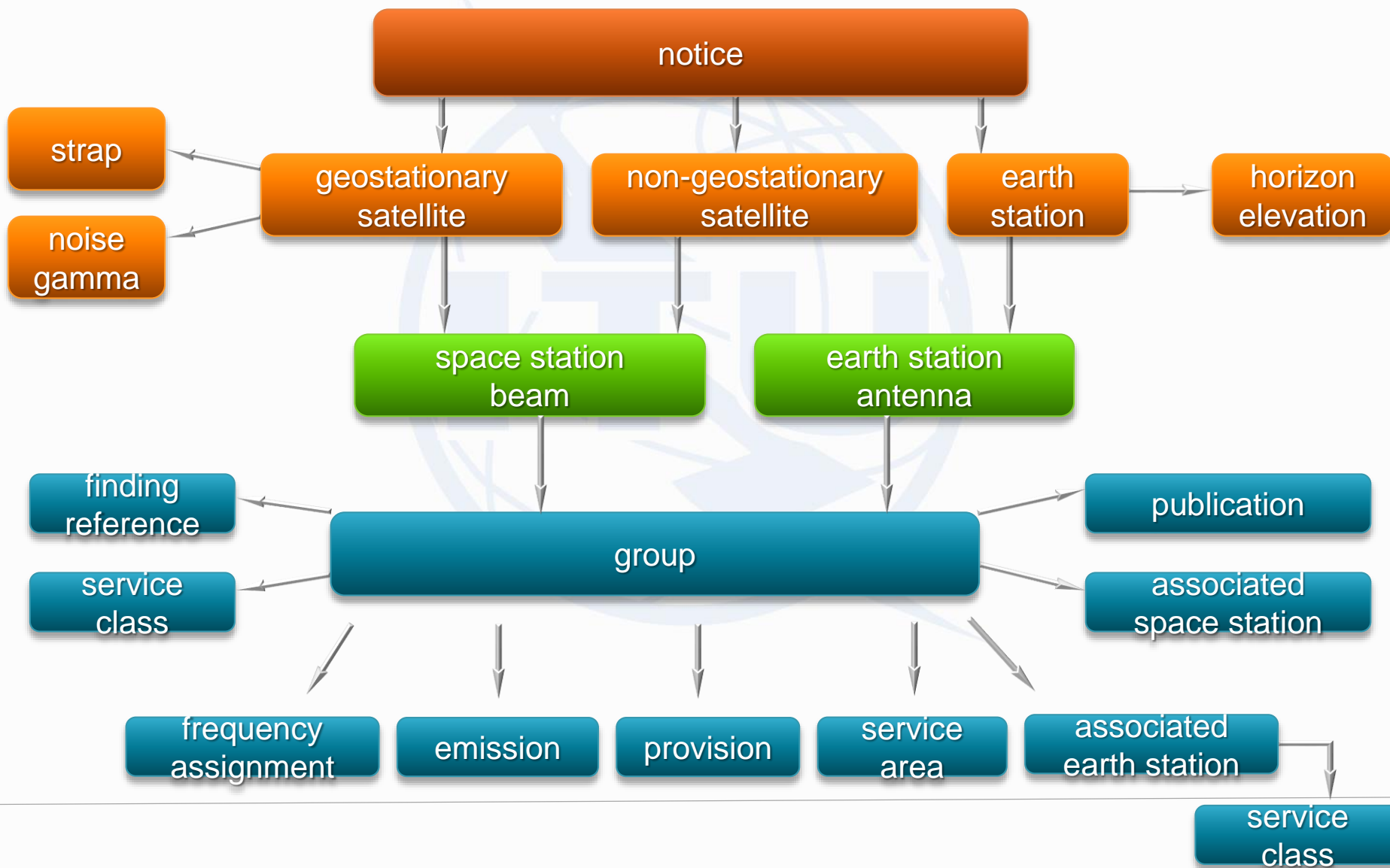
- SNS Format and Versioning

SNS Format version 8



- Each World Radio Communication Conference introduces new resolutions and changes to the Radio Regulations
 - **Decisions taken at WRC 2012 : v 7** (e.g. New tables to support the new due diligence procedure for 21-22.4 GHz (RES552), DGSO as new AP4 data)
 - **Decisions taken at WRC 2015 : v 8** (e.g. A16c as new AP4 data for a commitment to meet separation distance of No. 5.509E and PFD limits of 5.509D)
 - **Data structure improvements for internal processing**
 - **Decisions to be taken at WRC-19: v9 [tentative 1 Jan 2021]** Impact on all desktop and web applications
- Where to find information on the V8 SNS Format?
 - Section III of the Space Preface
 - Description of the SNS V8 format
 - http://www.itu.int/en/ITU-R/space/Preface/preface_e.pdf

SNS Data Structure



SNS Data Structure – Tree View



Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status	Count=1
112520119[A]	G	I /	38W	NEWSAT-1F-38W	24.02.2012	50	
List of notices							
[-] 112520119[A]							
▶ Beam id: BSR							
▶ Beam id: BWR							
[-] Beam id: GS							
▶ Group id: 112651322 (p83)							
▶ Group id: 112651323 (p84)							
[-] Beam id: GSF							
▶ Group id: 112651324 (p85)							
▶ Group id: 112651325 (p86)							
▶ Beam id: KAR							
▶ Beam id: BSR							
▶ Beam id: BTR							
▶ Beam id: BWR							
▶ Beam id: GS							
▶ Beam id: GSF							
▶ Beam id: KAR							

Structure of the transaction

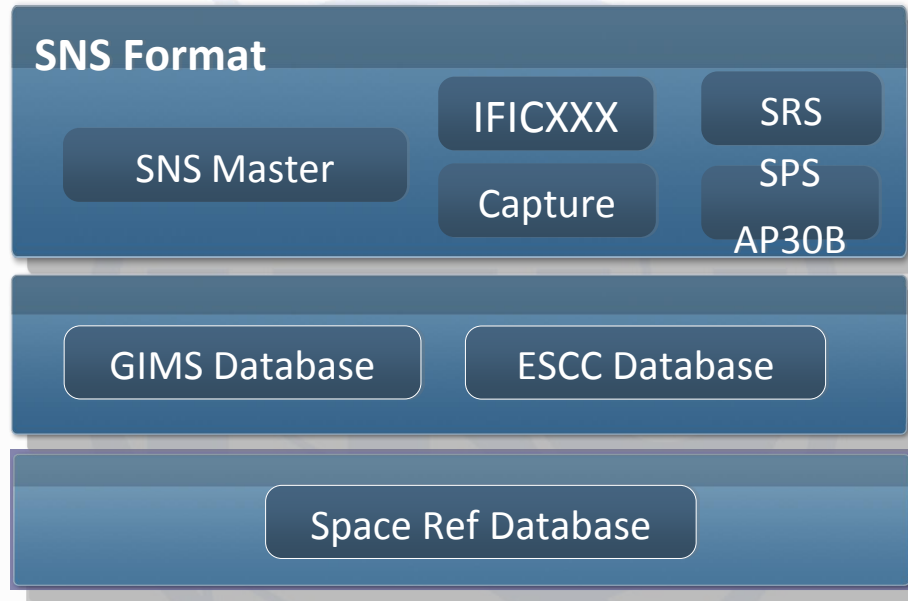
Sat. name: NEWSAT-1F-38W
Type of notice: Coordination Status: 50
Adm./Org.: I Orb. pos.: 38W Orb. type: G

- [-] 112520119 MOD
 - ▶ BSR (R)
 - ▶ BWR (R)
 - [-] GS (R)
 - ▶ 112651322
 - ▶ 112651323
 - [-] GSF (R)
 - ▶ 112651324
 - ▶ 112651325
 - ▶ KAR (R)
 - ▶ BSR (E)
 - ▶ BTR (E)
 - ▶ BWR (E)
 - ▶ GS (E)
 - ▶ GSF (E)
 - ▶ KAR (E)
 - ▶ KU2 (E)

Regulations – Databases - Software



Appendix 4
Annex 2 of
the Radio
Regulations



Regulations

Databases

Software





Thank you !