Space Plans and Lists

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Committed to connecting the world

ITU Constitution

- Article 44
  - Radio frequencies and any associated orbits are limited natural resources
  - Must be used rationally, efficiently and economically in conformity with the RR
  - To have equitable access to those resources

- Article 45
  - Not to cause harmful interference to the service operating in accordance with the RR

Radio Regulations

Mechanism to control interference

- Allocation
- Coordination / Plan
- Technical and operational limits
- Licensing
- Monitoring

Coordination vs. Plan

- Coordination Approach
  - First come, first served based on current requirement
  - Efficient/ economical
- Planning Approach
  - Distribution of resources based on current and future requirement
  - Equitable access

Space Plans approach

For specific space services - frequency bands

- AP30/30A Plan
  - BSS and feeder-link
  - 11.7-12.2 GHz(Region 3),
    11.7-12.5 GHz(Region 1),
    12.2-12.7 GHz(Region 2),
    17.3-18.1 GHz(Region 1&3),
    17.3-17.8 GHz(Region 2),
    14.5-14.8 GHz(Region 1&3 except Europe)
- AP30B Plan
  - FSS
  - 4.500-4.800 GHz
    6.725-7.025 GHz

    10.70-10.95 GHz
    11.20-11.45 GHz

    12.75-13.25 GHz

Some features of Plans Procedures

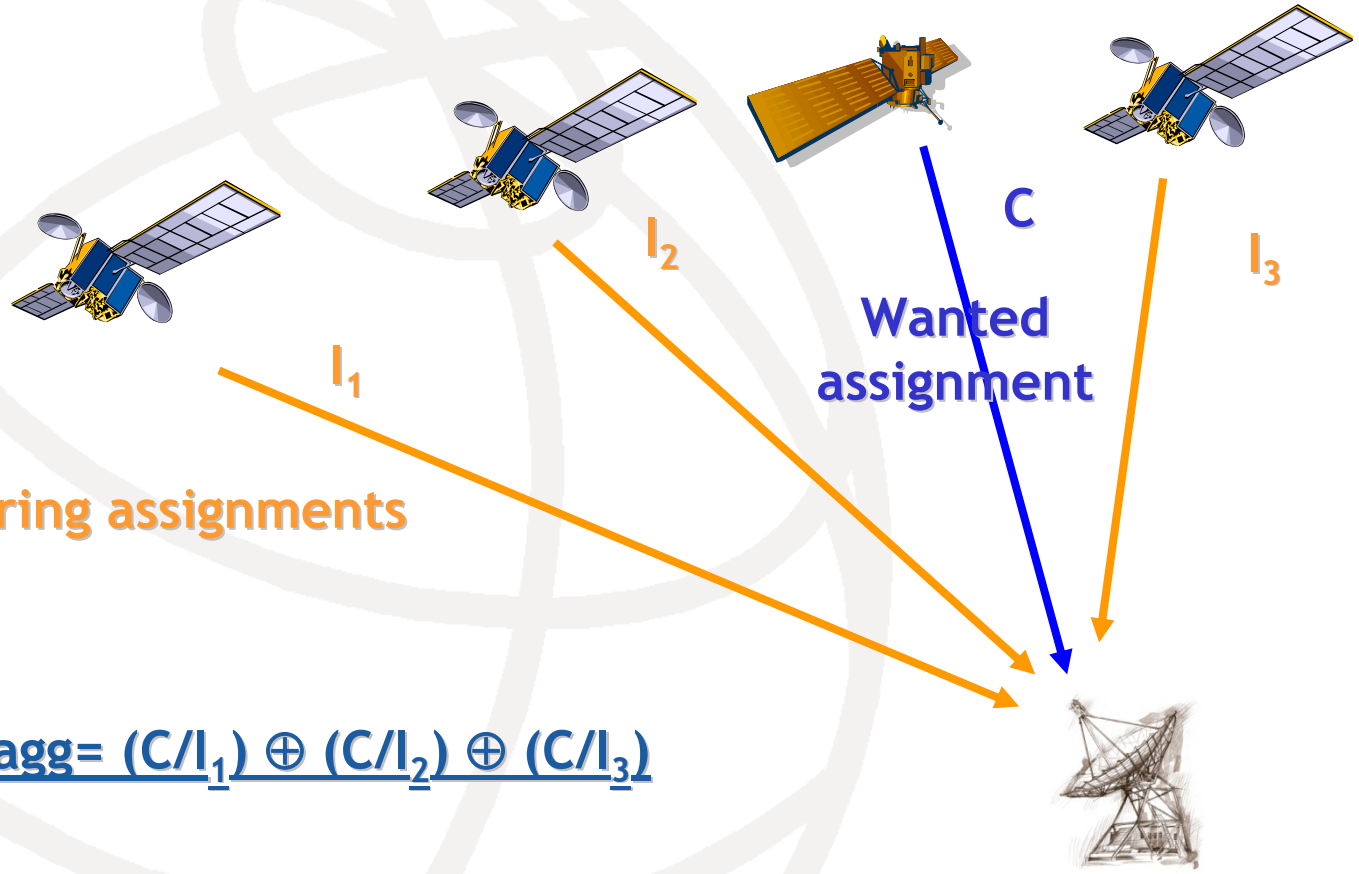
- Guarantee of equitable access
  - Beam to cover national territory
- Reservation of capacity for future use
  - In many cases Plan assignments are not in operation but will not be cancelled
  - Standard parameters (assumption) are required
- Aggregate C/I is used to maximize capacity
- Protection is given based on Plan characteristics (not characteristics in MIFR)

Standard parameters

Main assumptions (with some exceptions)

- **Same amount of frequency band for each beam**
- **National coverage**
- **Elliptical beam using defined space station antenna pattern**
- **Defined C/N**
- **Same values of system noise temperature**
- **Similar power level**
- **Defined earth station antenna size and pattern**
- **Defined Aggregate C/I**

Aggregate C/I



$$(C/I)agg = (C/I_1) \oplus (C/I_2) \oplus (C/I_3)$$

AP30/30A vs. AP30B approach

- **AP30/30A**
  - Plans separated by Regions
  - Shared with other space services in other Regions
  - Cluster concept in R2 Plan
- **AP30B**
  - World wide
  - Allotment (conversion to assignment)
  - Single entry

Any question?

Thank you