TV White Space Solutions
Enabled through Spectrum Management Databases

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Spectrum Sharing => White Space

Spectrum Sharing is based on the principle of letting others use the unused spectrum (or white space).

TV White Space in the UHF band is reasonably harmonized globally.

The FCC rules are in place

- 2 Databases are currently certified
- 3 radios are certified
- 5 further radios in the certification process with SBI

Multiple trial sites located around the world and several commercial operations in the USA.

The Database is the Regulator's preferred approach for TV White Space around the world.
How it works…

ULS
CDBS

FCC License Data & Policies

TVWS Database

SYNC

TVWS Database

Radio Access Networks

Channel Maps

PMSE
Broadcasters were originally very concerned about the Database process

Could the database operators be trusted?

Would they get the answers right?

How would they (incumbents) deal with multiple database operators?

As a result of the cooperation between FCC, industry and the broadcasters they are much less concerned.

The FCC workshops helped significantly.

Now they have seen the process in operation they are more comfortable
Current deployments are for Fixed radios
Limited number of radios deployed
Still got to see the impact of the low power personal/portable devices
Database rules still a concern
   24 hour operation concerns broadcasters easily addressed by the database
Harmonization with international Regulators
Standards for White Space operation
White Space or Gray Space?

- A product of mixing **MegaWatt** and **milliWatt** transmitters in the same ecosystem.
- Need for co-existence is exacerbated by the nature of excellent VHF and UHF propagation.
- A data base provides the opportunity to mitigate the interference effects of TV services and other TVBDs.
Further Database Opportunities

Current TVWS rules are rudimentary

The Database can provide very granular and flexible protection
  - Change is easy and has no impact on deployed technology
  - Updates/enhancements to the rules easily absorbed by the Database
  - Rules can be tailored to any combination of location, frequency, time, device

The Database does not have to provide free (unlicensed/license exempt) access to spectrum
  - Clearing house options
  - Alternative to auctioning spectrum

The Database can manage priority access, QOS and coexistence (1750MHz and 4900MHz)
  - Permissions can be limited to maximum “clearing” time
  - Permissions can be rescinded for priority use
  - The “air traffic controller” for radios
Thank You

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