TV White Space Geolocation Database

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Topics

- Background

- Status

- Issues

- Approach

- Next Steps

Background

- In Nov, 2008, the FCC officially called for a geolocation database to enable TV White Space devices by providing lists of available channels
  - FCC 08-260 in ET Docket 04-186, 11/4/2008
  - 47CFR15.711: Interference Avoidance Mechanisms

- In Feb, 2009, a lawsuit was filed by MSTV and NAB

- Also in Feb, 2009 an ad hoc group formed to address issues with the database including formats and protocols

- By May, 2009 over 15 Petitions for Reconsideration were filed
  - A total of 50 filings from 30 entities

- In Nov, 2009, the FCC issued a PN inviting proposals for TV Band Device Database Managers
  - Nine companies submitted proposals

- In Jan, 2010, the FCC issued a R&O and FNPRM on wireless microphones

- In Mar, 2010 the FCC issued the National Broadband Plan

- Since Nov, 2008 there have been over 150 ex parte visits or filings at the FCC

Status

- Pending Notice of Inquiry on fixed, high power point-to-point operation in rural areas

- Pending rulemakings on wireless microphones
  - Licensing status

- Public Notice for geolocation database
  - Decision after the ruling on Petitions for Reconsideration (we hope)

- Waiting for FCC decisions on
  - Petitions for Reconsideration
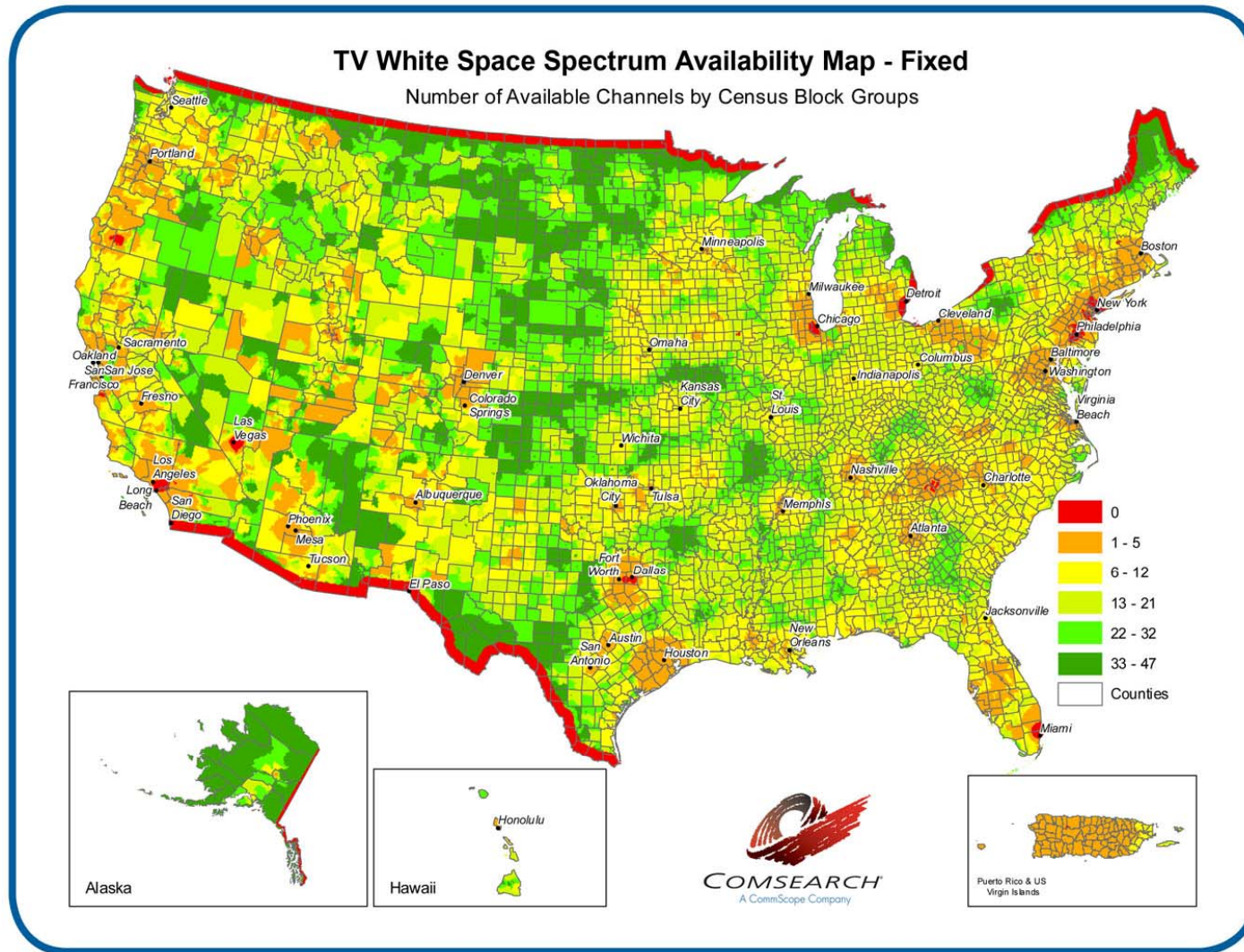 - Wireless microphones
  - Database administrators

Status

- Standards bodies and industry associations
  - IEEE 802 committees (.11af, .19, .22.1)
  - Wireless Innovation Forum (formerly SDR forum)
  - Ecma-392 CogNeA (Cognitive Networking Alliance)

- Alliances forming
  - Atheros, Broadcom, Dell, HP, Marvell Semiconductor, Microsoft , Motorola, Nokia, Philips, and WISPA ("TVWS Group")
  - Wi-Fi Alliance
  - FiberTower, Sprint Nextel, Rural Telecommunications Group (the "Coalition")
  - Dell & Microsoft

- International
  - Ofcom
  - CEPT

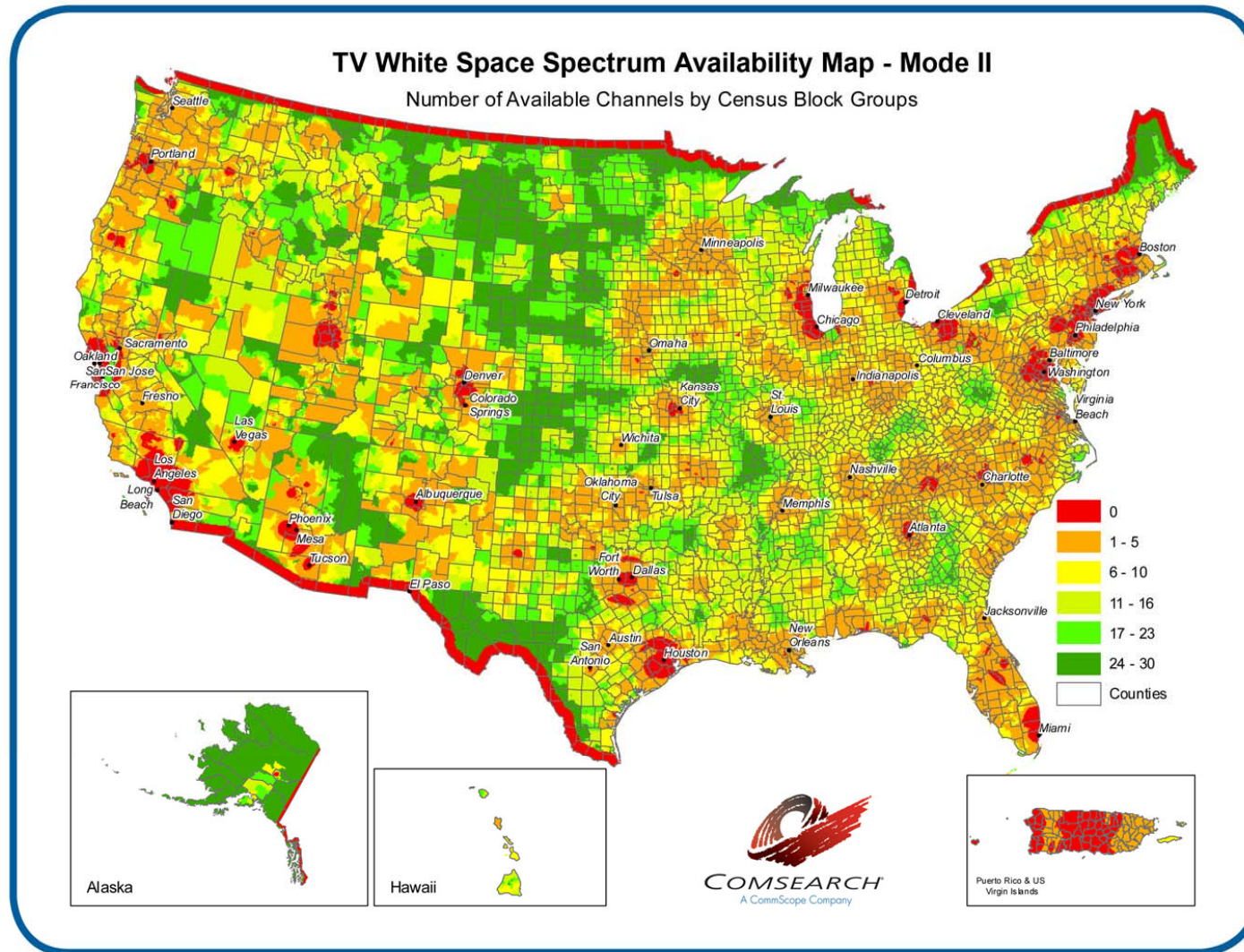- Trial systems deployed

Issues

- Continuing regulatory process
  - Petitions for Recon
  - Legal challenges and lawsuits

- Broadcast spectrum repurposing
  - How long will it take?
  - How much is left for TV/WS?

- Wireless microphones
  - Who gets protection in the database?

- Number of database administrators
  - Data and calculational consistency – Motorola work in White Space group
  - Data sharing
  - MOU process with FCC

- Geolocation

- Amount of spectrum for TV/WS
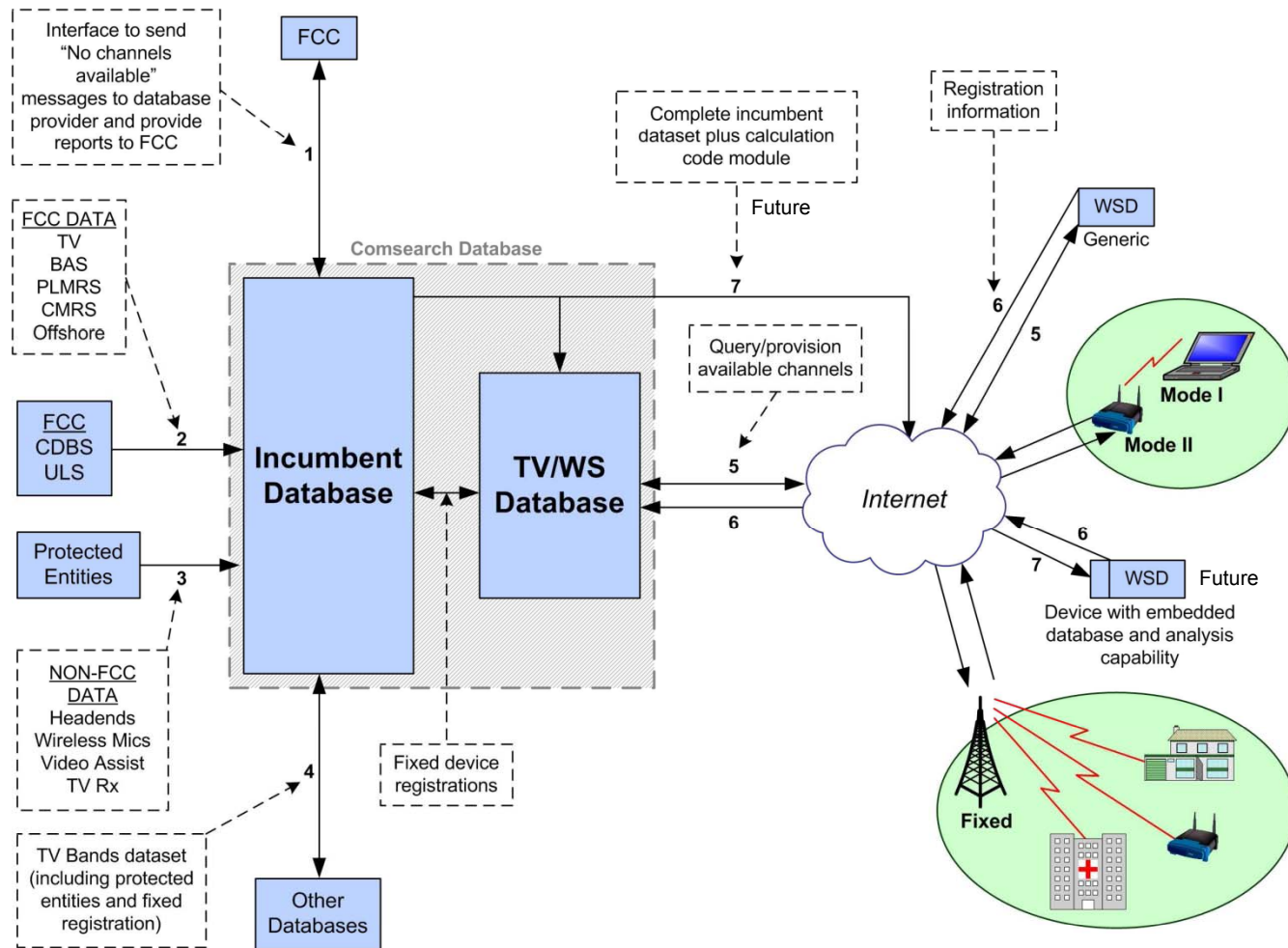
Issues – Spectrum Availability

TV White Space Spectrum Availability Map - Fixed
Number of Available Channels by Census Block Groups

Issues – Spectrum Availability

Our Approach – Functional Architecture

COMSEARCH INTEGRATED WHITE SPACE DATABASE SYSTEM

Our Approach – Security

- Agree with Dell, Microsoft, Motorola, and Google
  - *"…all database proposals should contemplate security that complies with standards for other commercial online operations."* (Dell & Microsoft ex parte, 8/27/09)
  - *"…the Commission [should] not require strict device security…", "Strict device security provides no additional protection benefits"* (Motorola ex parte, 10/13/09)
  - *"…the WSDB should not act as an up-front enforcer"* (Google ex parte, 9/18/09)
  - *"The database should not be considered a barrier to the operation of devices that might function outside of the Commission's rules."* (Comsearch ex parte, 9/23/09)

- Use database authentication (e.g., shared secret methods) (Motorola)
  - Use password-based accounts with the database to assure device identity
  - Can be used to reasonably assure device identity without significant additional costs to consumers

- Comsearch handles millions of dollars a year through online database transactions using manual authentication and password-based security methods

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Additional Services

- Channel List Optimization

- On-demand frequency planning

- Leverage to other spectrum/bands

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What's Next?

- FCC action by Q310 (end of September)
  - Petitions for Recon
  - Repurposing of broadcast spectrum
  - Wireless microphones
  - Selection of database admins
    - Commence MOU negotiation

- Development of guidelines for:
  - Data-sharing
  - Calculations
  - Data consistency

- Ongoing standards work

- International harmonization

Questions

Questions?

www.comsearch.com