

# The 4 Ws of Spectrum – What, Where, When and Why

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Wireless Without Limits  
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# Initial Thought

“Farming looks mighty easy when your plow is a pencil and you’re a thousand miles from a cornfield.”

*Dwight D. Eisenhower*

# The 4 Ws

- The Whats
  - Types of spectrum (licensed, unlicensed, lightly licensed)
  - Secondary markets
  - Repurposing spectrum
  - Opportunistic use
- The Wheres
  - The FCC, NTIA & Congress
  - Spectrum bands in play
- The Whens (short vs. long term)
- The Whys
  - Because...

# TV White Spaces

- Congress considering spectrum reform legislation
  - FCC wants “incentive auction” authority
  - Active and ongoing education and lobbying
  - Impact on TV white spaces uncertain
- FCC pending matters
  - Petitions for reconsideration
  - Database
  - Equipment certifications
  - Wireless microphone database
- WISPA Trial Project

# 3550-3650 MHz

- NTIA “Fast-Track” Report identified 3550-3650 MHz band for potential transfer to FCC for commercial allocation
  - Report premised on high-power mobile WiMax
  - Large coastal exclusion zones
- FCC Public Notice in spring 2011
  - Mobile interests said they don’t want the band
  - WISP interests pointed out flaws in NTIA Report and indicated desire for band as extension of 3650-3700 MHz band

# 3550-3650 MHz

- Congress
  - S.911 would require FCC to auction band unless President determined that Treasury could get comparable revenues in other bands
  - Other draft legislation would allow FCC to determine how to allocate band, including unlicensed

# 3650-3700 MHz

- FCC considering modest “best practices” rule changes
- Other potential considerations:
  - Eliminate end-user registration requirement
  - Allow higher power in rural areas
  - More “best practices”
  - Alternatives to satellite exclusion zones

# Wireless Backhaul

- New FCC rules effective October 27, 2011
  - 650 megahertz available for wireless backhaul on shared basis with BAS and CARS
    - 6875-6975 MHz and 7025-7125 MHz
    - 12700-13150 MHz available for backhaul on shared basis
      - 50 MHz channels permissible in the 13 GHz band
  - Adaptive modulation required

# Wireless Backhaul

- Further Notice of Proposed rulemaking
  - Smaller antennas in the 5925-6875 MHz band, 17700-18820 MHz band, 18920-19700 MHz band and 21200-23600 MHz band
  - Relaxing antenna efficiency standards for "rural areas"
  - Allowing wider channels in the 6 GHz (from 30 to 60 MHz) and 11 GHz bands (from 40 to 80 MHz)
  - Defining "minimum payload capacity"

# Final Thoughts

“Politics should be the part-time profession of every citizen.”

*Dwight D. Eisenhower*

“It is not the strongest of species that survives, nor the most intelligent, but the one most responsive to change.”

*Charles Darwin*

# Questions?

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