Spectrum Bridge in TV White Spaces

- Spectrum Bridge is leading in TV White Space Market Development.
  - Working with Radio manufacturers and System Integrators in bringing solutions to market.
  - Deploying Networks with partners for later expansion.
  - Spectrum Bridge Database provides radios and networks the access to TV White Space channels.
  - Licensing Software solutions in radios and infrastructure to enable TV White Space use.
  - Delivering Software Applications for end user devices and within the core network to optimize bandwidth and access.
  - Performing FCC certification of radios.

Creating New Opportunities in TV White Spaces
TV White Space
Ideal for a Wide Range of Fixed and Mobile Applications

- Fixed Broadband Access
  - Rural Broadband
- Middle Mile
  - link WiFi Hotspots
- Enhanced WiFi
- In Home/Office Networks
- Wireless Backhaul
- Smart City Networks
- M2M Communications
- Offload traffic
- Utilize for events
- Campus-area Networks
- Network which combines licensed and unlicensed spectrum
- Prepaid service

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TV White Space
Ideal for a Wide Range of Utility and Smart Grid Applications

- AMR/AMI
- SCADA
- Intelligent control of generation and distribution infrastructure
- Substation monitoring
- Communications link backup (dispatch and point-to-point)
- Broadband telemetry
- Remote security, video and control
- Mobile broadband communications to field units
- Disaster recovery
- Smart appliance networking
Access to TV White Spaces
Limiting Factor?

- **Major Metropolitan Areas**
  - White space is available but may not provide a good user experience.
  - Few contiguous channels prevent high bandwidth applications.

- **Outside the Top 20**
  - Good opportunities exist for white space usage and high bandwidth applications.
  - WAN systems are possible given the amount of contiguous channels.

- **Tier 3 Markets – 50 to 300**
  - Very good opportunities for WAN from the bandwidth availability and propagation characteristics of white space frequencies.

Find TV White Space Availability At
www.showmywhitespace.com
Or
On Your iPhone
TV White Spaces Summary

• **Benefits of White Spaces**
  – Building penetration
  – Propagation

• **Drawbacks**
  – Bandwidth limitations may limit applications
  – Incumbents can limit flexibility
  – Low allowable EIRP limits range

• **Similar Adoption Path to 802.11.**
  – Started SO/ HO and Personal Area Networks
  – Migrated to include Enterprise

• **New Technologies**
  – Re-banded 802.11 and WiMax.
  – Database driven cognitive networks.
  – Multi-frequency radios to leverage licensed and unlicensed spectrum
Thank You

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