<table>
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<tr>
<th>Project</th>
<th>IEEE 802 Executive Committee Study Group on TV White Spaces – ADHOC USE CASE SUB-GROUP</th>
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<tr>
<td>Title</td>
<td>ECSG ADHOC INTEROPERABILITY AND COEXISTENCE DISCUSSION</td>
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<td>Date Submitted</td>
<td>2009-01-23</td>
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<td>Source(s)</td>
<td>Contributor: Ivan Reede, Affiliation AmeriSys Inc. e-mail: <a href="mailto:i_reede@amerisys.com">i_reede@amerisys.com</a></td>
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<tr>
<td>Abstract</td>
<td>IEEE 802 ECSG on White Space interoperability vs coexistence</td>
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<td>Purpose</td>
<td>To provide input to the ECSG a discussion platform to consider the possibility of interoperability and coexistence in the TVWS spectrum.</td>
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<td>Release</td>
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802 Whitespace Interoperability and Coexistence Discussion Seed

**Purpose:** to help the 802 EC SG to decide if it should recommend that 802 should aim toward interoperability or limit itself to simple coexistence between 802 stds in the TVWS
Interoperability

• There are winning factors for everybody
  – From the end-user point of view
  – From the standards point of view
  – From a manufacturer's point of view
  – For 802
Interoperability

• End-user point Win points
  • Roaming from one system (4W) to the next (100mW) may be desirable
  • Inter-operable standards would probably be better than simply coexisting standards
  • Single NIC use is simpler than having multiple NICs
Interoperability

- Standards Win points
  - Coexistence amongst inter-operable devices may be more natural
  - Spectrum sharing and access fairness may be enhanced
  - Common hardware across standards creates economies of scale
  - Leveraging the contents of one standard to another may be simplified
  - Thereby reducing development costs and time to market for ensuing standards
  - Favor cohesive rather than maverick expansion
Interoperability

• Manufacturer's Win points
  • Added perceived value gives consumers an impetus to update their hardware
  • Drive sales via leveraging as rural areas are served by .11 and .22 networks
  • Create a larger unified consumer base
  • Allow economies of scale than a fragmented market provides
Interoperability

• For 802
  • Give a professional unified image of highly cohesive and extremely functional group
  • Improve the 802 brand value simultaneously for all Working Groups
Interoperability

• A prime example
  • Most if not just about all 802.11 NICs have 802.11b and 02.11g
  • It is to b expected that 802.11n NICs will have a,b,g and n support
Interoperability

- What would be required
  - Common PHY
  - Multi-mode MAC