



Radio LANs

ETSI-IEEE conference
IEEE 802.11 Chair's views
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Cooperation between RLAN Standards Committees

- Ad-hoc liaison done over the years
- Formalized liaison is difficult to achieve
- Additional RLAN issue is administration of spectrum
- Sharing of drafts and standards is required to prevent duplication

Ad-hoc liaison

- ETSI BRAN and IEEE P802.11 have had informal liaison over the years
- Drafts were exchanged based on Chairman's discretion
- Tutorials were received by both groups
- The 5 GHz groups in both bodies selected the same modulation scheme
- Currently the groups are further looking at selecting the same or similar system parameters
- The goal is to obtain the benefit of large scale volumes from multiple vendors
- May also provide better co-existence possibilities

Formalized Liaison?

- There is no policy in either body that permits making draft standards or standards available to any of the working groups
 - 802.11 chair could not make the 802.11-1997 standard available to the group in ETSI working on Home RF applications
- There is no formal structure to input comments into each other's projects
- Joint development of a 5 GHz specification that enables a true global standard over and above the professional and technical differences of each group is hard to achieve (geographic differences, frequency allocation and application differences, etc.)

Spectrum and System related issues

- Global availability
- Unlicensed vs Licensed bands
- Interoperability vs Co-existence requirement
- Ample bandwidth needed to make practical system solutions
- Mobile vs Fixed service definitions
- Sharing with other services

Global availability of spectrum

- We need:
 - harmonization of frequency bandwidth
 - harmonization of rules
- Good example is the 2.45 GHz band, which is now available to RLAN devices virtually worldwide
- Next area of expansion may be found in the 5 GHz band:
 - 5 GHz band is available in Europe as the HIPERLAN band and in the USA as the U-NII band
 - Canada and Japan are planning to introduce allocations for RLAN in the 5 GHz band

Unlicensed vs licensed bands

- IEEE 802.11 is advising regulatory agencies to Segregate the rules for licensed and unlicensed applications into different frequency segments if the application is within the same geographic area
- We request ETSI to advise the same

Interoperability vs Co-existence requirement

- The 2.45 GHz band is a good example of rules and regulations that are only concerned with co-existence requirements today
 - band has been in use since the rules and regulations were approved
- the 5 GHz band in Europe requires the use of an interoperability standard for RLAN applications
 - the band has been allocated from the early 1990s, but is still not used by RLAN devices
 - Future IEEE 802.11 RLAN devices under development for the 5 GHz band are not permitted due to the fact that the band may only be used by HIPERLAN devices today
 - seems to be in contradiction of the European policy for free trade in Europe
 - IEEE 802.11 is requesting ETSI's assistance to include RLAN devices as another type of HIPERLAN device in the 5 GHz band

Ample bandwidth needed to make practical system solutions

- Consideration of voice or data applications versus range, frequency re-use and digital data rates requires ample bandwidth for each
- concerted efforts of IEEE and ETSI are required to harmonize the allocation of spectrum and system planning

Mobile vs Fixed service definitions

- Mobile applications require limitation of RF power need to save battery life
- Fixed link services require distances to be spanned so require more RF power, but have no AC power limitations
- The deployment of devices of the two services mentioned above should therefore be outside each others geographic location or frequency band
- Interoperability of mobile and fixed users of similar applications must be allowed

Sharing frequencies with other services

- Spectrum is a scarce resource and re-use should be encouraged
- Sharing should be done where-ever possible, however, the co-existence should be warranted by careful and realistic calculation, on each application's merit

Conclusions

- Joint standard development should be our ultimate goal
- Secretariats should agree on a formal structure
- Open spectrum policy is needed to respond to users and manufacturer's needs
- Harmonization of applications versus spectrum bandwidth and use is required on a global scale