

Dynamic Frequency Access Licensing: A New Spectrum Access Model

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For the past century, the government has used three basic models for allocating and managing spectrum access. Government allocation according to a master chart of uses (“Command and Control”), Private Property Rights such as auctioning aspects of the spectrum, and which has a corollary of leasing long term uses, and a Commons requiring neither a license nor a fee, which is the current approach for WiFi and other 802.11 standards. In each case there can be newer approaches to how that particular model is run, but basically the choices presented are government issue, private property, or commons.

The Aspen Institute Telecommunications Policy Conferences on spectrum reform in 2002 and 2003 yielded, among other things, another, hybrid model.

That model is made possible by new technologies that enable use of the underutilized dimension of spectrum, that is, of the “white spaces” on unused frequencies, times and spaces. Increasingly, radios will be able to access these white spaces when the primary user is not actually utilizing the spectrum in issue, and move off or to another place in the spectrum when the primary user needs it again.

The licensing in this Dynamic Frequency Access Licensing (DFAL) scheme is not governmental, as in the assignment of a frequency to a particular entity, but rather a privately granted access right as in the ASCAP/BMI model that exists for music copyrights by radio stations and others. The DFAL scheme combines aspects of both commons and private property rights.

We would establish a rights licensing agency, as a private corporation of license holders, which would place into a common pool the available frequency space and time from a wide variety of spectrum rights holders. Users could use any of those frequency moments on a secondary basis for a set fee paid to the new Spectrum Rights Corporation. The corporation would distribute the fees back to the owners on an as-used basis. The usage fee would be periodically adjusted to reflect demand/supply conditions, and would vary by frequency bands.

All of this would be voluntary for those who paid for their frequencies at auction or through lease. They would have an incentive to place their spare or “white” frequency time in the pool because they would be gaining additional revenue with no loss of the present or future use of their frequencies.

For new users, this system would enable unlicensed entry. Such entry would not be cost free if demand for the frequency is strong.

As for those who receive frequency space free of charge, it makes sense to require the use of their unused, white space at only a small compensation to them, a kind of compulsory license or easement to their unused spectrum. There would still be the same user fee discussed above charged to the secondary unlicensed users. Half of the proceeds might go to the license holders. The rest of the fees would go for the improvement in the effective use of spectrum, and for support of content and applications in the public interest. The private license holders would also receive full property rights for the spectrum they are presently actually using, with the rest going into the open access pool. Details on this point would, of course, have to be worked out.