

Text As Prepared

**Remarks By
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U.S. Spectrum Policy: Convergence or Co-Existence?
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It is nice to see all of you and to be back here in such familiar territory. Thank you for inviting me to come speak, especially on this topic – which I really enjoy. It is always fun and exciting to have discussions regarding the new technologies entering the marketplace and the benefits they may offer. It is not necessarily as “fun” to engage in discussions regarding sharing, but it is very important – which is why I was glad to see that the first panel will focus in part on techniques to facilitate sharing.

As one of 5 children, it was impressed upon me early on that like it or not – sometimes we simply have to share. This fundamental life lesson, more so than ever before, is particularly relevant to the spectrum environment.

As more and more players vie to use the same frequencies, it is becoming increasingly difficult to find unencumbered spectrum. As a result, industry has been forced to respond with creative ways to enhance spectral efficiency. These more recent technological changes allow spectrum sharing to be taken to new levels. For example, satellite and terrestrial sharing scenarios are becoming increasingly realistic. Advances in software defined radios permit increases in efficiency by allowing quick modification to transmit and receive on any frequency and in any desired transmission format. DoD’s “XG” program – which focuses on Next Generation communications devices to support military deployment - seeks to produce even further advances in spectrum assignment technology through dynamic use of frequency, time and space. We are also seeing incredible innovations in the unlicensed spectrum arena – the “wild west” of the spectrum landscape and arguably the epitome of adaptation in the face of forced sharing. Bluetooth and 802.11 applications will allow users to set up flexible short range wireless networks. Sophisticated ultrawideband technology – promising to deliver data at faster speeds and lower power – can potentially co-exist with spectrum users in any frequency.

These examples illustrate how industry is adapting to make more and better use of the spectrum currently available, and harness spectrum once considered unusable. The Commission must adapt as well. To the extent that technology is outpacing regulation, we should at the very least ensure that the Commission does not act in a way to discourage or stand in the way of innovation. But I also think we should proactively seize opportunities to encourage, and even insist on, more efficient use of current spectrum, particularly through sharing. A basic focus on sharing can guide the Commission in helping to respond to the growing demand for spectrum.

To some of you, this may not sound like a particularly new idea. I recognize that historically, one of the Commission's core functions always has been to set the rules of spectrum sharing through the process of allocation, creating interference parameters and then acting as the referee. However, this traditional model, in some respects, creates disincentives for sharing. The allocation of specific services into their own dedicated pockets of spectrum cultivates almost a "feudom" mentality, with spectrum users jealously guarding their spectrum turf. The Commission, then, gets bogged down in debates over what is "harmful interference" – wrangling over whether certain interference gains outweigh other interference costs. This process inherently results in underutilization of spectrum, both through allocations that discourage sharing and the time expended in resolving interference disputes. Too often, the unfortunate result is the wasting of a precious natural resource - a waste that can never be recaptured.

Instead, the Commission should move toward policies that make sharing easier, and even desirable. For example, a robust secondary market for spectrum and flexible allocations (that are technology and service-neutral) can create strong incentives for making use of excess capacity. Allowing priority access permits flexibility for a higher valued use some of the time, without having to dedicate specific frequencies to those uses all of the time.

In summary, our spectrum management objective should be to create incentives for the efficient utilization of spectrum at every given point in time, by both established users and new entrants. In our role as spectrum managers, we are often faced with competing demands that seemingly force us to pick winners and losers in the spectrum marketplace. However, we should be in the habit of challenging the notion that use of particular frequencies or bands is necessarily mutually exclusive. We should exploit

those technologies that seem to allow more winners all around. Sharing should become the presumption, not the exception.

I am optimistic that future technological developments will provide the Commission with more and more opportunities to insist on sharing. Ultimately, the amount of available spectrum and our ability to use it is perhaps limited only by technology. Today, however, we must act rationally to make the best choices within the spectrum constraints that face us now, and that will lead to the marketplace developments we would like to see tomorrow.