

**Remarks of  
Jonathan S. Adelstein  
Commissioner, Federal Communications Commission**

**“New Frontiers in Wireless Policy:  
A Framework for Innovation”  
Silicon Flatirons Telecommunications Program  
University of Colorado at Boulder**

**April 9, 2003**  
[As prepared for delivery]

**I. The Importance of Spectrum-Based Services**

Thank you for that kind introduction Phil. I want to thank you and the Silicon Flatirons Telecommunications Program for inviting me to speak to you today. It is a real pleasure to be here in Boulder to talk about New Frontiers in Wireless Policy. My parents actually met as undergraduates here in Boulder. So in a very real sense, I would not be here today if not for this institution.

As many of you may know, I grew up in South Dakota – in frontier terms, that makes us neighbors – so it is really great to be back in the Midwest. I have noticed the University has become a hotbed for the discussion of telecom and spectrum policy, which is a real tribute to the incredible leadership of Phil Weiser.

I am a big fan of wireless services, and all spectrum-based technologies. You see, I actually grew up with mobile wireless. My father was probably one of the first people in Rapid City to have a wireless phone installed in his car. Now this was back in the 1970s, before cellular and PCS. To make a call, he would pick up the phone and actually be connected to an operator, who would function as a switchboard and connect the call for him. I have this image of Lily Tomlin’s “Ernestine” character placing the first wireless calls for my dad.

The evolution of wireless industries is one of the greatest technology success stories this country has ever seen. These industries have played a big role in driving our country’s economic growth during the previous decade. As a Commissioner at the FCC, spectrum management is one of my highest priorities. I am committed to ensuring that spectrum-based services continue to improve our quality of life and to exploring new ways they can improve our nation’s economy.

Spectrum touches our lives in so many ways. Technologies that use spectrum improve our nation’s productivity, as well as our citizens’ safety. With spectrum, we can call for emergency help wherever we are, and we will soon be able to even provide our location with a call to 911. We now can fill our downtime by communicating with friends, families, and co-workers. Being connected thus enhances our productivity and our personal lives. I, like millions of others, regularly use my wireless phone to check into the office or call my family when I am on the road - which is a lot these days. So it boosts our economic growth and our quality of life.

I am also excited by the promise of wireless broadband. Much recent attention is rightly focused on the great success of WiFi. But many other promising technologies, both licensed and unlicensed, can also provide broadband. We are already seeing broadband provided over satellite systems and the development of high-speed data connections over cellular and PCS spectrum and in the MDS/ITFS bands. We must continue to promote these technologies to encourage as many avenues as possible for broadband to reach consumers.

I have said that when it comes to spectrum policy, we have to do more with less. Our goal as policymakers must be to make the spectrum stretch farther and farther so it can accommodate both more users and the newest service offerings. In thinking about this issue, I have adopted an approach to spectrum management that I call a “Framework for Innovation.” This approach promotes continued industry development, employs a light regulatory touch, and recognizes the unique traits of the electromagnetic radio spectrum as a resource. My goal is to maximize the services and information that flow over our country’s airwaves.

## **II. My Regulatory Philosophy as an FCC Commissioner**

I have been at the Commission for just over four months now. As a new member, I am relying on some key principles to guide my deliberations. Before I begin a more focused discussion of my thoughts on spectrum policy, I want to highlight a few of these principles today.

First and foremost, my role is to implement the laws as written by Congress, not to impose my own personal preferences. In this regard, I take very seriously Congress’ charge that we manage the nation’s airwaves. Spectrum is a finite public national resource, with characteristics unlike that of any other. Managing spectrum effectively and efficiently is a primary responsibility of the FCC since its foundation in 1934.

Second, one of the two basic thrusts of the Telecommunications Act of 1996 is to promote competition. The Act envisioned many forms of competition, both among traditional wireline and intermodal telecommunications services. I believe that spectrum-based services offer promising new opportunities to extend the benefits of competition in both voice and broadband communications. We must encourage new and innovative technologies, and more effective spectrum management, to maximize those competitive opportunities.

Third, the Act envisions deregulation in areas where competition has firmly taken hold. Fortunately, the wireless market, particularly Commercial Mobile Radio Service, is synonymous with keen competition – due in no small part to the regulatory framework that was initially adopted for these services. Consequently, we must take care in the future to only apply those rules that truly benefit the public interest so as to avoid undermining these healthy competitive conditions.

Finally, we are here to protect the public interest. Ultimately, the Communications Act of 1934 and the Telecommunications Act of 1996 were written for consumers. That means we want to ensure that everyone in this country has access to the best spectrum-based services and technologies in the world at reasonable rates.

### **III. Improving Spectrum Management with a Framework for Innovation**

Notwithstanding some noted successes in spectrum-based services, we rightly continue to hear complaints about the Commission's spectrum management policies. We read so much about how the Commission's current approach is outdated and out of touch with the latest technologies. I agree there is a great deal of room for improvement. However, while we regularly hear the call to "fix" the current approach to regulating spectrum – rarely do we hear constructive solutions or ideas.

That is why I commend Chairman Powell for his leadership in forming the Spectrum Policy Task Force and the members of the Task Force for their 2002 report. The Task Force had the noteworthy goal of "identifying and evaluating changes in spectrum policy that will increase the public benefits derived from the use of radio spectrum." It truly was a Herculean task to tackle, in such a public and open manner, the issue of improving the way that spectrum is managed in the United States.

Most significantly, the report offers specific findings and recommendations that have been very useful in stimulating debate. While I may not agree with every aspect of the report, the Task Force did an outstanding job of identifying spectrum management areas ripe for reform, and in offering specific suggestions for improving those policies that are behind the times.

The Task Force noted that "increasing demand for spectrum-based services and devices are straining longstanding, and outmoded, spectrum policies." I could not agree more. The reality is that we cannot produce more spectrum. We need to foster innovation and enable new technologies to come forward to meet demand more efficiently – in both the private and public sectors.

In thinking about this challenge, I would like to outline what I call a new "Framework for Innovation." It reflects my belief that, in dealing with spectrum, the Commission has a responsibility to establish ground rules for issues such as interference and availability. Given the unique nature of spectrum, I certainly believe there is a role for the Commission in managing the spectrum, but that such a role requires a light touch and a sense of humility in terms of the rules we choose to apply.

A Framework for Innovation is intended to provide conditions for the growth and development of spectrum-based services. It would function in a manner akin to a greenhouse, in which plants are protected from the elements by a structure and are nurtured so that they can thrive on their own within it. I would like the FCC to apply such an approach to spectrum management. We want to build a structure that encourages the growth of spectrum-based industries, but helps control the elements, like harmful interference. And just as a greenhouse can support different types of plant forms, our framework must do the same – it must be flexible enough to accommodate all different kinds of technologies. Our framework should not choose which technology will survive, and which will not, but it must create an environment that allows the different seeds of technology to truly have an opportunity to grow and innovate on their own.

Innovation should drive our approach to spectrum-based services in the future. We must provide a framework for industry to develop new and more efficient services and technologies. Spectrum is a finite public resource. In order to improve our country's use of it, we need to improve access and innovation. It is the Commission's obligation to explore all new technologies available to us to ensure that we are advancing and improving our nation's access to spectrum-based services.

Fortunately, these services rely so heavily on technology and thrive on innovation and engineering. Innovation leads to increased performance, increased capacity, and ultimately more and better services for the consumer. The right kind of spectrum management policy promotes these developments, and, as policy makers, we always need to consider the latest technologies in managing spectrum policy.

#### **IV. Framework for Innovation – Guiding Principles**

I believe the Commission can put in place a framework of rules and policies that foster innovation more naturally, just as a greenhouse cultivates growth. A framework that ensures interference issues are addressed, but allows technologies to flourish. A framework that encourages a market-based approach to spectrum management. A framework that gets spectrum in the hands of people who will use it. I have seen the same spectrum efficiency charts you have. We cannot let spectrum sit around fallow. It is not a property right, but a contingent right to use a public resource – it can and should be put to use to benefit consumers.

The reality is that different spectrum bands require different approaches. It would be easier for all of us if we could do a “one size fits all” approach, but we cannot. Simply put, some bands may be better suited for unlicensed use; some bands are not. Some bands will require unique interference criteria based on propagation characteristics, while others may be subject to coordination with NTIA or with foreign administrations and the ITU.

In applying a Framework for Innovation, we must learn from our spectrum management successes, such as WiFi, PCS, and DBS, and our failures – which are probably too many to mention. Let me provide you with seven general principles:

- First, there will be a role for both licensed and unlicensed services in the future. The Commission should not presume that all unlicensed services are innovative or that all licensed services are dinosaurs from the command and control days. We regularly hear the debate over the merits of exclusive rights versus the commons model. I do not see this as an “either/or” proposition. The Commission can and should do both. So I support the effort to identify new unlicensed spectrum at 5 GHz, as well as the effort to identify new spectrum for licensed 3G services.
- Second, how ever the Commission chooses to make spectrum available, it must not suggest the vesting of permanent property rights. The Commission always must retain the authority and flexibility to regulate the rights and responsibilities of both licensees and users of unlicensed spectrum.

- Third, while we must be mindful of harmful interference, we cannot let frivolous claims stand in the way of innovation. That is why I fully support a technology like ultra-wideband (UWB). I believe that we need to push the boundaries to accommodate new technologies. For example, provided that UWB does not cause real harmful interference, we must encourage its development. A little noticed provision of the Communications Act, Section 157, reads that “It shall be the policy of the United States to encourage the provision of new technologies and services to the public.” I am fully committed to that mission to promote new technologies, and to provide a Framework for Innovation so they can succeed.
- Fourth, in allowing additional flexibility to already licensed services, we should consider the feasibility of authorizing such rights through auctions or imposing some other financial incentive to encourage efficiency. It may not always make sense to actually adopt such an approach, but I do think we should always consider it.
- Fifth, I support the consideration by Congress of a grant of spectrum user fee authority to the FCC. While we may not need to impose fees in all situations, the Commission should have the discretion to impose fees to promote efficiency, particularly for those services in which incumbents did not pay for their licenses.
- Sixth, I want to encourage healthy and robust secondary markets; but we must ensure that license obligations continue to be satisfied. A Framework for Innovation should promote a secondary market that accommodates new technologies, but does not cause the Commission to lose or cede control over the spectrum.
- And finally, it is appropriate for the Commission to have a more hands-on approach to spectrum matters affecting the public safety community. Spectrum is a limited public resource, and we must make sure that public safety agencies have continued access to that spectrum to do their critical jobs more safely and effectively. We also must make every effort to encourage and facilitate efficient and innovative use of public safety spectrum, just as we do for commercial services.

## **V. Improving Spectrum Access and Services**

Spectrum-based services offer great potential to all Americans, particularly those in rural America. The Commission needs to encourage new and innovative technologies, and more efficient spectrum management, to maximize that potential. I think in certain areas, the Commission can and should do more to promote access to spectrum. Now that you have heard the general principles of a Framework for Innovation, I want to offer four specific thoughts on how the Commission can further manage the spectrum in the public interest.

- While I recognize that auctions are not a perfect solution, I support the use of them to resolve cases of mutual exclusivity for applicants seeking wide-area licenses. Not only does the law require it, but I believe that auctions allow the FCC to assign spectrum in a completely transparent manner, which is so critical to a sound spectrum policy. I do have concerns with some of the rules used to determine bidding credits, which I already have begun to address

with my colleagues and our staff.

- We need to rethink the FCC's build-out rules for exclusive services, specifically the recent shift to a 10-year build out period for many services. Ten years is a lifetime in the spectrum business, and I believe that such a policy can undercut the ability of carriers to get access to unused spectrum – whether they are in underserved areas or have developed new technologies. We need to adopt tough but fair construction requirements to ensure that spectrum is truly being put to use.
- The FCC needs to promote better policies that improve the availability of spectrum to those providers who want to serve rural areas, particularly community-based providers. For example, I am concerned that large license areas raise auction prices so high that many companies interested in serving rural areas cannot even afford to make a first bid. So, in future auctions, I will support the use of smaller wireless license areas that better reflect a smaller customer base. For example, last year, several rural telcos in South Dakota banded together to buy a number of smaller licenses in the 700 MHz auction. The point of the bid was to get the licenses in the hands of community-based providers in order to serve their own rural customers – not for someone to speculate and sell it later – or worse yet, to let it lie fallow. I want to see more of this.

I certainly recognize that there also is value in offering larger service areas for economies of scale and to facilitate larger scale deployments. I believe we can find a balance, and I am pleased to note that a number of commenters in the 3G proceeding supported different sizes of license areas for different blocks of the 3G spectrum.

- I truly believe that enhanced 911 is one of the most important services that wireless providers can offer. There's no higher calling or higher priority for the industry or for us at the FCC. Every day, we confront issues that can affect billions of dollars. But this is a real life and death issue. The FCC can do more to support the rollout of E911, but so can the different stakeholders involved with wireless E911. That is why I look forward to working with my colleagues on our upcoming E911 coordination initiative on April 29, which will gather representatives from all of the different stakeholders to share experiences on actual deployment.

## **VI. A Model of Framework for Innovation**

I have spoken in the past about Monet Mobile, the first wireless provider in the country to launch broadband Internet access using Qualcomm's high data rate technology. It is a great story, particularly when you consider that the company chose to provide its high-speed wireless Internet services in seven Midwestern towns, including Fargo, North Dakota, and Sioux Falls, South Dakota.

But what is equally compelling to me is that Monet was able to get to where it is within the Commission's existing rules for the PCS service. In other words, the rules did not get in the way of this exciting new service offering. For example, Monet did not win licenses at auction. It instead went out into the secondary market and purchased PCS licenses from existing licensees.

One licensee had an upcoming construction deadline in the fifth year of the license but presumably decided to sell its license to Monet, who really wanted to build out and operate in the territory.

Our PCS service rules are flexible enough to allow license holders to sell their licenses in the secondary market, thereby facilitating the use of the spectrum by Monet. Monet purchased Basic Trading Area licenses, which are relatively small and allowed the company to secure a license that best matched its business plan, which was to target underserved markets. And finally, Monet is offering a data-only service using a technology that did not exist at the time of the first PCS auctions.

You may be wondering how that can be. Well, our rules allow it – we let PCS licensees offer voice, data or both; we let licensees offer fixed or mobile service; and, most importantly, we did not pick a technology. We let licensees decide what technology they wanted to use. I bet the people of Sioux Falls in my home state are pretty pleased about that. And I am glad to see that once again South Dakota is leading the way for the rest of the nation.

I cannot think of a better example of a Framework for Innovation. The PCS service rules should prove a model for our future regulatory efforts. And WiFi should do the same for unlicensed services. We need to replicate these successes across the entire electromagnetic radio spectrum to take these services to the next generation. So out with command and control and in with a Framework for Innovation. The spectrum frontier awaits.

Thank you.