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Wireless and Broadband: Trends and Challenges

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Good afternoon. I'd like to thank Dow, Lohnes and Albertson and Communications Daily for having me here today. I am honored to be the inaugural speaker in this series. I'd also like to thank Anne Swanson personally for her work in putting this together. It is a pleasure to be here.

Today I am going to talk about wireless and broadband services. I am going to discuss how these services have evolved, and talk about some common trends and challenges facing both of them.

EVOLUTION OF WIRELESS SERVICE

The evolution of wireless service in this country is an amazing story. In the late 1980s and early 1990s, wireless was still an elite or niche service. Originally, it was primarily a car phone, and, by 1993, it was used by only about 16 million people. It was primarily a local service, and extra charges were incurred for making long distance calls.

And local service was expensive. The average monthly bill in 1993 was \$61, with a limited number of minutes. And, of course, wireless service only provided voice.

[Slide 2] Let's look where we are today. The car phone has become a personal phone and is owned by a majority of people in this country. As this chart shows, there has been tremendous growth in the number of wireless subscribers over the last ten years.

Wireless carriers offer all-distance plans, where there is no additional fee for long distance. Pricing has come down. Today, the average monthly

bill is about \$36, with an average of 507 minutes of use a month. And the average price per minute is about 10 cents.

[Slide 3] And wireless provides far more than voice today. Mobile phones also provide text messaging, Internet access, pictures, ring tones, and video games. Today, 25% of all mobile telephone subscribers send text messages. Over 2 billion text messages were sent per month at the end of 2003. Last year, consumers spent \$2.5 billion downloading ring tones. And 12.2 million Americans played games on their mobile phones.

[Slide 4] And look at what has happened to the level of competition in the wireless market. In the early 1990s, there were, at most, two providers in every market. We had a regulated duopoly. Today, 96.8% of the population lives in counties with three or more wireless competitors. 93% live in counties with four or more. 87.5% live in counties with five or more. 75.8% live in counties with six or more competitors.

[Slide 5] Today, wireless is the poster child for competition. There are now more than 161 million wireless subscribers in this country. There are over 205,000 jobs in the wireless industry. The industry has invested more than \$146 billion.

GROWTH OF BROADBAND TODAY

[Slide 6] – Broadband service has also seen tremendous growth. Broadband services are essential to the economy of the 21st century, dramatically reducing the costs of exchanging information and enabling local businesses to connect to world markets.

During my tenure at the Commission I have been a consistent and strong proponent of developing a regulatory framework designed to further encourage the national deployment of broadband infrastructure capable of delivering new advanced services.

Since 1996, there has been a dramatic increase in investment throughout the communications sector.

As this slide shows, investment in the internet has exploded. Internet access has exploded from 40 million households in 1996 to more than 170

million households today. An astounding 99% of public schools now have internet connections.

[Slide 7] – High speed line growth has also been drastic and dramatic. The Commission has taken several steps to promote deployment of new broadband networks:

For example, we removed unbundling requirements on newly deployed fiber to the premise which makes it easier to deploy 21st century networks.

The Commission also provided regulatory relief for new hybrid fiber-copper facilities, deregulating the fiber and new packet-based technologies that provide broadband services today.

And investment in broadband in particular has been vigorous. As you can see, as of December 2003, over 28 million high speed lines connected homes and businesses to the internet – a dramatic increase from 1999.

[Slide 8] – Cable/DSL Availability Overlap

Today, more than 80% of consumers have access to broadband either over cable or DSL. And we have seen not only an increase in the availability of broadband services, but also an increase in the available options from different broadband platforms.

A majority of US households now have broadband service offerings from both cable and telephone companies. And that is compared to only a third of households that had that option just three years ago.

[Slide 9] – FTTH Homes Passed

We are also just beginning to see the positive impact that our recent broadband unbundling relief has had on the marketplace.

I am pleased that some carriers, such as Verizon, have seized this opportunity and have announced plans to bring next generation fiber and packet technologies closer to the American consumer in their region.

As you can see, just before the Triennial Review Order, less than 200,000 homes had fiber-to-the-home deployed in their neighborhoods.

Since our actions to provide greater broadband relief in the Triennial Order, we have experienced an explosion in fiber-to-the-home deployments throughout the country. Now there are nearly 1.4 million homes passed with fiber. These homes now have the opportunity to receive the array of advanced services that can be delivered over high capacity broadband fiber optic lines.

Fiber to the Curb

Yesterday, the Commission continued its efforts to encourage deployment of 21st century broadband networks.

The Commission relieved incumbents from unbundling requirements for fiber-to-the-curb (FTTC) loops. Yesterday's decision builds on the broadband principles and relief we provided for fiber-to-the-home network deployments.

As a result of our announcement, SBC and BellSouth have already announced plans to accelerate construction of fiber networks to millions of homes over the next few years.

SBC announced plans to reach 18 million homes by the end of 2007, deploying 38,800 miles of fiber at a cost of \$4 billion to \$6 billion.

BellSouth said it planned to increase by 40 percent the number of homes it annually reaches with its fiber network.

I am encouraged that these announcements, in addition to the previous announcements made by Verizon, will further speed the deployment of high speed fiber networks to millions of homes over the next few years to deliver advanced communications services to households throughout the nation.

But our work is not done.

While more consumers are now able to enjoy the speed and applications that a true broadband connection offers, there are critical issues that the Commission must address to continue the near term deployment of these vital broadband facilities and services.

I believe the Commission should forebear from applying section 271's independent unbundling obligations on broadband facilities and investment. As you know, nearly a year ago, Verizon filed a petition for forbearance of the section 271 requirements for broadband. I believe we should act quickly on this petition.

As I have advocated in the past, we also need to clarify the regulatory treatment of DSL. We need to create a level playing field with cable modem. We should treat telephone company-provided broadband services the same as we treat similar services provided on cable broadband facilities.

WIRELESS AND BROADBAND TRENDS AND CHALLENGES

The success of wireless and broadband has brought both industries a number of new challenges. I'm going to talk about a few of the ones they share as well as some unique challenges.

[Slide 10] - Common Challenges

Avoid Viewing Wireless and Broadband as a Revenue Stream

In a variety of contexts, wireless is beginning to face more financial demands from government. There are municipal taxes. There are fees for access to rights of way and tunnels. And these fees are on top of universal service fees and other charges.

At the same time, wireless customers are demanding better service quality and new features, which requires new investment.

I believe that government should commit itself to exercising self-restraint in placing additional financial burdens on the wireless market. Wireless service – particularly broadband wireless – is an economic driver. It enables people to stay connected while mobile, lowering the costs of doing business and making people more productive. As such, we ought to encourage wireless to flourish – to provide better service to more people. To do so, every level of government should be committed to minimizing such financial burdens.

The danger for the wireless industry is that the very reasons for its success – the absence of stifling regulations and a highly competitive market

– will give rise to oppressive government financial demands that divert funds from improvements and innovations.

Broadband today faces the same challenge. Currently, at every level, government too often sees broadband deployment and telecommunications more generally as a potential revenue stream. Federal and state excise taxes – the kind of taxes traditionally reserved for decreasing demand for certain products, such as alcohol and tobacco – frequently apply to broadband. And local franchise fees are sometimes designed to recoup more than the costs governments bear for such services as repairing streets. By imposing such taxes, governments may actually discourage demand and therefore deployment. To truly help spur broadband deployment, every level of government should be committed to minimizing and eliminating these excess financial burdens.

National vs. Local Service

Perhaps the most important trend facing both wireless and broadband involves geographic scope. The Commission originally licensed wireless services by small geographic areas. However, many of these licenses have been amalgamated by carriers that are now national in scope. These carriers use economies of scale and scope to offer lower costs to more consumers. Their operations use uniform service plans, customer service training, billing systems, and “back office” management tools. Thus, for many carriers, wireless is a more national service.

Wireless could develop in this manner because of a consistent regulatory treatment throughout the country. Under section 332 of the Communications Act, local jurisdictions cannot regulate rates or entry. However, the statute does allow states and localities to regulate “other terms and conditions.”

Many states have recently begun to consider regulating different aspects of wireless service, as part of consumer protection initiatives. I think the goals of these consumer initiatives are laudable. Indeed, at the Federal level, I have fought for such consumer protections as local number portability and E911 mandates. However, I am concerned that, because of the more national scope of wireless service, a single state may end up establishing a de facto national standard. Or, even worse, wireless carriers may be faced with

conflicting state regulations, which make maximizing scale and scope quite difficult.

Because wireless has become a more national service, we need to be cautious in our regulatory efforts. First, we need to remember that wireless is a robustly competitive field and respect the national nature of the service being provided. We should consider a new template that relies on cooperation between the states and the FCC. For example, we could consider a joint conference, with representatives from the FCC, the states, the industry, and consumer groups. The conference could identify the concerns underlying the state consumer initiatives. The conference could then examine whether these concerns are being addressed through recent industry self-regulation and, if additional protections are necessary, whether a more national approach might be appropriate. In this way, we could advance the goals of the states to protect consumers, without risking inhibiting the growth of wireless competition.

A similar debate is occurring with respect to broadband – specifically to voice over internet protocol or VoIP. VoIP service is experiencing great success in the marketplace. With each passing day, more service providers are offering VoIP service to consumers. Given the national scope of these service offerings, many in Congress have called for the Commission to exercise federal jurisdiction over these services. I believe it is important for regulation to take a cautious regulatory approach so that we do not hamper the development and deployment of these new services. I have stated previously that both the FCC and the states should be careful not to impose unnecessary economic regulation on VoIP services. I am also pleased that the Commission is moving forward quickly on addressing the critical public safety and law enforcement concerns associated with deployment of IP based voice services. I believe, as many have pointed out, that VOIP services are not bound by traditional state boundaries and also are more of a national service.

[Slide 11] – Unique Challenges

Interference Temperature Concepts

A unique challenge faced by wireless is what I'll call generally “interference temperature” concepts. There has been much talk recently of ways to squeeze more users into the same amount of spectrum. Interference

temperature concepts involve using adaptive technology to share spectrum until some threshold level of aggregate interference is reached.

At the outset, let me say that I believe that the Commission should encourage this kind of spectrum sharing. As more and more players vie to use the same frequencies, it is becoming increasingly difficult to find unencumbered spectrum. Industry and academics have responded with creative ways to share spectrum. I support these efforts to use technology to make more efficient use of spectrum. Efforts such as adaptive listening devices, wi-fi, and ultrawideband technology allow the sharing of spectrum through dynamic use of frequency, time, and space. I believe we should enable licensed spectrum holders to engage in such sharing if they choose to. And we should consider applying such sharing concepts to new spectrum bands.

However, today people are considering mandating such sharing in already-licensed bands. I think we need to be very cautious with such an approach. Interference temperature concepts that look elegant in a laboratory may take some time to work out in the real world. In addition, choosing the right “temperature” will not be an easy task. Licensed users have legitimate expectations of protection against harmful interference. Accordingly, we should be cautious and hesitant to mandate interference temperature concepts in their bands.

Mass Market/Enterprise Definition

A unique challenge faced by broadband is a definitional issue. In the Triennial Review Order, the Commission established two customer classes – “mass market” customers and “enterprise” customers.

Some of the underlying unbundling obligations of incumbent carriers and the access rights of requesting carriers may be affected by these market distinctions.

Yesterday, the Commission adopted an item that granted incumbent carriers the same relief from the unbundling requirements for fiber-to-the-curb (“FTTC”) loops as it previously provided to carriers deploying fiber-to-the-premises loops.

The Commission acknowledged that it has yet to define what constitutes a mass market customer.

I believe that the definition of what constitutes the mass market and enterprise market will be a crucial issue in the upcoming Triennial Review Remand Order that the Chairman has scheduled for adoption this December.

The decision has an inherent tension for both incumbents and competitors, and people may not fully appreciate the significance of this decision.