Remarks by Commissioner Kevin J. Martin
Federal Communications Commission
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Thank you for that kind introduction and for inviting me to be here with you this morning. I always love to get back to North Carolina, and especially to my hometown of Charlotte.

Thank you also to Bruce Melhman for his remarks. He is an old friend but a hard act to follow. It is always a chore to follow Bruce and still say something interesting, but I will do my best.

You have asked me to speak about the FCC's role in the future growth of technology, which I am happy to try to do. But first, let me preface that by saying that unfortunately like most of us -- including many other "experts out there" -- I can't predict the future.

I read recently in the Wall Street Journal that "Technology companies are often described as 'inventing the future'… but [that] they aren't very good at predicting it" [Lee Gomes, Wall Street Journal, April 14, 2003]. The article described WiFi as a way to bypass the "last mile problem" and says that "there was a time when people thought broadband access to every home would take billions of dollars worth of fiber-optic cable laid everywhere. In the end we might get it free." I'm not so sure about that prediction either -- at least no one is offering it free to my house yet.

But while the author may not be entirely correct either about the predictive power of the technology industry or about the effectiveness of WiFi, he still makes a good point. There have been some fairly off key predictions made by the technology industry in the past.

Indeed, at almost every turn, even the most forward-looking individuals have failed to accurately predict the development of technology. Consider a few:

Ken Olson, President and founder of Digital Equipment Corporation, concluded that "there is no reason for any individual to have a computer in their home."

Or how about the statement by Thomas Watson, then Chairman of IBM, that "there is a world market for maybe five computers."

Or even Bill Gates' conclusion in 1982 that "640 K ought to be enough [memory] for anybody."

And just as these visionaries were wrong about the development of technology in general, people have been consistently wrong about the development of communications technologies that the FCC regulates.

For instance, Alexander Graham Bell patented his telephone in 1876 and subsequently tried to sell it to Western Union. Western Union declined saying "this 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us." The Boston Post editorialized in a similar vein, saying that "well-informed people know it is impossible to transmit the voice over wires, and that were it possible to do so, the thing would be of no practical value." Believe me, my job would be a whole lot easier if this had been true.

But if the visionaries were wrong about the development of technology, the government has often done worse, at times acting as an impediment to innovation.

In 1913 the US Attorney actually prosecuted inventor and radio pioneer Lee DeForest for fraud. They concluded that "DeForest has said in many newspapers and over his signature that it would be possible to transmit the human voice across the Atlantic before many years. Based on these absurd and deliberately misleading statements, the misguided public … has been persuaded to purchase stock in his company."

Sadly the FCC has too often been guilty of impeding technological innovation, as well.

- In the 1930's, the FCC suppressed the development of FM radio because of concerns about the impact on AM.

- In the 1970's, the FCC delayed the development of wireless telephones by giving tentative approval to a car-based wireless system instead of the portable cell phones we use today.

In the end, neither the technology experts nor government agencies can predict the future direction of technological developments. But where does that leave us and someone like me who is responsible for regulating industry? I believe that is why we should avoid top down regulatory approaches -- ones that attempt to pick the right technology or service to be deployed.

Government does not create wealth. But government can create an environment in which innovation, entrepreneurs, and investment can flourish.

As policymakers, we at the Commission have a responsibility to help create such an environment -- to promote and not stifle innovation. But often times, that actually requires the government to get out of the way. I believe that market-driven forces are the best method of delivering the benefits of choice, innovation, and affordability to our nation.

The Commission can foster innovation through policies designed to reduce government's role -- and allow American consumers to benefit from the fruits of technological advancement. I believe the Commission can take several steps to spur innovation and the benefits it provides:

1.) The Commission should facilitate technological advancements by advancing a clear and sound regulatory environment. One that sets clear rules and then removes impediments to innovation, encouraging investment in the development and deployment of new technologies.

2.) We should be hesitant to apply old regulations to new technologies and services. There are significant advances constantly being made, and we at the FCC must resist temptation to regulate up -- or apply our old rules to new competitors.

3.) Lastly, we as regulators must remain aware of how quickly markets in this sector can change. When necessary, we must be ready to evaluate both the marketplace and their existing regulations on a regular basis to ensure that existing rules and policies continue to achieve their intended objective in the most effective and efficient manner possible. If and when existing rules or policies fail this test, regulators should act quickly to determine whether those rules should be altered or repealed.

With these principles in mind, let me take a few minutes to talk about some of the technologies we at the Commission are seeing and how we are attempting to remove regulatory burdens to facilitate their growth and development.

I. Broadband

None of us here underestimate the importance of broadband to our nation's future. Telecommunications has been responsible for much of this nation's economic growth during the past decade, and the availability of advanced telecommunications is essential to the economy in the 21st century. I am hopeful that continued broadband deployment will lead to a new period of growth in the sector.

Being from what was a rural area of North Carolina, advancing broadband deployment in rural America is an area of great personal interest. We in government must continue to promote initiatives which ensure that all Americans are given the opportunity to participate in the global economy and the information age. To do so, we must continue to encourage deployment to underserved and rural areas.

Broadband deployment in rural areas can considerably improve the quality of life for those consumers who live far away from many big city services, including medical and educational services. For example, high speed connections allow for the use of telemedicine; doctors in one part of the state or another part of the world can diagnose and treat patients located somewhere else in real time. Last year I saw first hand such life-saving technology at the impressive telemedicine facilities at East Carolina University.

In that vein, I must also applaud the work of the Rural Internet Access Authority for their efforts to connect North Carolinians to the Internet with their "e-NC" initiative. The Rural Internet Access Authority recognizes that despite the tech sector presence here, North Carolina remains a very rural state. And as such, North Carolina faces unique challenges in increasing the number of households with computers and Internet access. The e-NC initiative is an important step towards getting more North Carolinians on-line.

Back in Washington, the Commission has been working on several things to further promote broadband deployment. As you probably know, the most talked about Commission action lately has been the Commission's decision regarding the future of local telephone competition and broadband investment. In February, the Commission provided sweeping regulatory relief for broadband and new investments by incumbent telephone companies.

In the decision, the FCC deregulated broadband and encouraged new investment by removing many of the unbundling requirements on newly deployed fiber and new packet technology.

Companies desiring to push fiber further to the home will now be able to make a fair return on their investment. And more consumers will be able to enjoy the fast speeds and exciting applications that a true broadband connection offers. I hope this relief will jump start investment in next-generation networks and facilitate the deployment of advanced services to all consumers.

For example, Verizon just announced several weeks ago that it plans to invest billions of dollars to upgrade their network to make DSL available to 10 million more homes by then end of this year. And according to Verizon, incumbents may ultimately need to spend more than $100 billion on network upgrades. Such investment will benefit equipment providers such as Corning and Alcatel right here in North Carolina.

In fact, Alcatel recently announced that it will sell equipment to Bell South in order to make 100 percent of South Carolina homes DSL capable by the end of the year. Corning's optical fiber and fiber optic cable manufacturing operations are centered in North Carolina, and as a result, North Carolina has more manufacturers of fiber optics than any other state in the Union. I hope continued efforts to upgrade the networks will only strengthen these manufacturers.

Also in the broadband space, the Commission recently opened a proceeding regarding broadband delivered over powerlines. This exciting alternative to cable modem and DSL could provide another potential last mile connection. Indeed, the existing national powerline grid already connects nearly every home in the US. The widespread deployment of this technology would be a great advancement for rural consumers. Not only could broadband reach more customers, but the introduction of another competitor should lower prices everywhere.

This technology has been just within reach for years, but potential providers have faced what seemed to be giant technological and economic hurdles. But lately, a few companies have seemingly solved these problems and are running trials of their systems in various cities throughout the county.

I know that a company called Amperion Connect is piloting such a system in Raleigh. Amperion has incorporated wireless technology into its system as their solution to many of the technical barriers to powerline broadband.

Mass introduction of this technology would revolutionize the broadband space as we know it. We at the Commission should do all we can to remove or ease any barriers to its deployment. I was pleased that the Commission recently took steps towards finding ways to ease some of these regulatory barriers.

II. Wireless

We are also working to facilitate innovation in wireless services and devices. In November, for example, we worked with the Department of Commerce to allocate two 45 MHz blocks of contiguous spectrum, which we propose to use for advanced wireless services. This would allow for exciting new "third generation" or "3G" applications such as truly high-speed Internet access on mobile phones and the ability to send video images to other phones or computers at the touch of a button.

At the same time, we are working to get more out of existing spectrum allocations. For example, last year, we also issued an order allowing commercial use of a new wireless technology – ultrawideband. Ultrawideband devices operate by employing very narrow or short duration pulses that result in very large transmission bandwidths. With appropriate technical standards, ultrawideband devices can operate using spectrum occupied by existing radio services without causing interference. Such devices thus can co-exist with spectrum users in any frequency, challenging the notion that use of particular frequencies or bands is necessarily mutually exclusive. In defiance of our traditional allocation paradigm that often forces us to pick "winners and losers" in the face of competing demands, this technology seems to allow more winners all around.

Ultrawideband technology promises a host of exciting military, public safety, medical and consumer uses. For example, firefighters, police officers, and emergency personnel can use of this technology to view objects that are behind walls, buried underground, or even inside the human body. Automakers have developed collision avoidance and improved airbag mechanisms based on ultrawideband.

In a similar vein, tomorrow the Commission will consider a notice of proposed rulemaking to make available an additional 255 MHz for unlicensed devices. Like ultrawideband technology, unlicensed devices share spectrum, with no company having rights to exclusive use. The notice we will consider tomorrow would be a step in

implementing an agreement made by industry and the Defense Department to allow for a significant increase in unlicensed spectrum.

Unlicensed devices have been a huge success story, from cordless phones to wireless broadband connections, such as 802.11b and Bluetooth. I am hopeful that unlicensed operations will, as some have suggested, eventually provide a last-mile application to connect people's homes to the Internet, offering a real alternative to telephone wires, cable, and satellite connections. And I know that a number of companies are developing a host of innovative new applications.

Finally, we are working on a critical proceeding to facilitate a secondary market in spectrum, so that spectrum license holders can more easily lease their spectrum to others. This week we will vote on an order that allows some spectrum leases without prior commission approval and provides a streamlined approval process for other leases. The idea is to minimize transaction costs to promote a vibrant secondary market.

Enabling current licensees to lease or sell their spectrum more easily provides an incentive to give spectrum to someone who values it more highly and would use it more efficiently. This is perhaps one of the clearest examples of where the government could set clear rules -- establish interference limits -- and then get out of the way. Trusting the market to make sure spectrum is being put to its highest use rather than us trying to anticipate what that use will be.

For these reasons, facilitating secondary markets in spectrum has been one of my biggest priorities at the Commission, and I am pleased that we are moving forward. The item we will vote on tomorrow covers only leasing of spectrum, but I hope that we will go further in the near future. I would like to make it easier not only to lease, but also to assign and transfer spectrum licenses. For several years, economists have been urging the Commission to take such a dramatic step. We are going to consider these issues in a further proceeding, but I hope we can act on them soon.

III. Media

Lastly, we have seen some exciting developments on the media side, as well. After interviewing 1,000 people, the Consumer Electronics Association found that 58 percent of women would rather own a high-definition, digital television set than a 1-carat diamond ring. And 64 percent of women would rather have a digital camera than a pair of half-carat diamond stud earrings. I don't know where CEA found these women – they certainly didn't ask my wife. But, when one considers all of the benefits that these new devices have to offer, you can understand why some women would choose the digital way.

Digital radio provides crystal clear sound, comparable in quality to CDs or to the acoustics of a fine concert hall. Unlike AM and FM, digital radio reception is virtually immune to interference. Thus, there are less static growls or multipath echoes that could

be caused by signal reflections off of buildings or other variations. In addition to offering superior audio quality, the technology allows radio broadcasters to send both audio and data content on the existing AM/FM bands using digital signals. By employing existing bandwidth more efficiently, digital radio transmissions can now include data such as station, song and artist identification, stock and news information, local traffic and weather.

On the video front, digital television is improving the viewing experience exponentially. It will allow consumers unprecedented choices – not only in what they are watching, but in when, where, and how they are watching.

Because DTV communicates in the digital language of computers, television stations can now transmit far more information than traditional technology allowed. They can send additional information along with the picture, such as stock quotes, closed captioning, or the price of products shown on the screen.

The possibilities for digital television are great, and will only increase as technology improves. With a digital TV set, consumers can view a picture as bright and sharp as it would appear on a movie screen, with CD-quality sound. We can choose among hundreds of channels that offer a wide variety of entertainment programming – including scores of broadcast TV shows, cable shows, movies, children's programming, and sporting events. Throughout the regular season, a viewer can now watch college basketball games that are taking place around the country – games which were previously available only in the viewer's local market. With the ACC's potential expansion further north and south, this could be the most critical development for folks in North Carolina.

IV. Conclusion

And this brings us back to my predictions about the future and its impact on North Carolina. Keeping in mind of course the fact that I, like so many before me, have a great potential to get any predictions wrong.

While I am likely to be a bad predictor of the specific future, I am excited about and confident in the potential of the innovative services we have talked about this morning. Like digital television's potential for greatness, many of these emerging technologies present a real opportunity for the sector to energize the customer experience. And in doing so, they present an opportunity to help energize the economy, as well.

And one area in which I am comfortable making predictions, and am even more confident, is about North Carolina and its ability to continue to develop its technology sector.

The technology sector's success has been a lynch pin to North Carolina's renaissance and its future economic wellbeing. Tech companies are making vital contributions to employment and to the economy in North Carolina. And I will predict

that further innovation and investment in the sector will also lead to further investment to this state.

To highlight just a few of the activities in North Carolina today:

Cisco's "east coast headquarters" has been located in the Research Triangle since 1993, where Cisco employs 2,500 people. Cisco has also made a home at my alma mater, Chapel Hill, where the company has centrally wired many of the campus's buildings for high speed data transmission and for wireless access points.

Nortel has been in North Carolina since 1974 and is one of the Research Triangle's largest employers, still employing 3,000 people. In a sign that the worst may be over, Nortel has recently sent three of its top executives to the Research Triangle campus, reaffirming the company's commitment to North Carolina.

Similarly, IBM, who employs 17,000 people statewide, recently announced the creation of a new Wireless Enterprise Lab in Raleigh where IBM will conduct research and create software to help customers integrate their wireless technologies.

In addition to employing North Carolinians and contributing to the economic health of this state, I was also pleased to learn that many of these companies are working to improve the quality of life here, as well. For example, Nortel, Alcatel, and IBM have programs aimed to improve many of our state's schools.

Nortel employees have spent significant volunteer time training over 6,000 North Carolina teachers to use computers and the Internet.

IBM has several educational programs. IBM is spending $70 million on its Reinventing Education initiative, and more grants have been allotted to North Carolina than in any other state, including a new grant awarded here in Charlotte. They also have a $36 million global university award program, and North Carolina State University has received a portion of those moneys to study the impact of e-education and mobile computing in teaching.

Alcatel is also conducting collaborative research with North Carolina State University. North Carolina's schools are better because of these and other similar programs, and as a society, we all benefit from such commitments.

Because of the efforts of these companies and many others, my crystal ball looks bright for further technology innovation and deployment in this state. And we will do our best at the federal level to stay out of your way.

Thank you again for having me this morning.