TESTIMONY OF
THOMAS E. WHEELER
PRESIDENT AND CEO
CELLULAR TELECOMMUNICATIONS
& INTERNET ASSOCIATION

BEFORE THE

UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE & TRANSPORTATION
SUBCOMMITTEE ON COMMUNICATIONS

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Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to appear before you today. I am Thomas E. Wheeler, President and CEO of the Cellular Telecommunications & Internet Association (CTIA) representing all categories of commercial wireless telecommunications carriers, including cellular and personal communications services (PCS).[1]

As we look to the challenges of American national security at the dawn of the 21st century, it is increasingly apparent that our security is dependent upon not only traditional military capabilities, but also the strength of our economic competitiveness at home and abroad.

[1] CTIA is the international organization which represents all elements of the Commercial Mobile Radio Service (CMRS) industry, including providers of cellular, enhanced specialized mobile radio, personal communications services and wireless data services and products. CTIA has over 750 total members including domestic and international carriers, resellers, and manufacturers of wireless telecommunications equipment. CTIA's members provide services in all 734 cellular markets in the United States and personal communications services in all 50 major trading areas, which together cover 95% of the U.S. population.

We presently find ourselves challenged to upgrade military systems and to supply each and every one of our fighting men and women every technological advantage possible. We also find ourselves challenged to maintain our position as world leaders in technology, especially as the world prepares to debut the next generation of the wireless Internet. At few times in this nation's history have the solutions to both these challenges been more closely intertwined.

Economically, the reason the United States leads the world in Internet technology and services is because we had a "home-field advantage" at the Net's inception. A well-developed Internet backbone enabled companies like Yahoo to test an idea and then go quickly to scale. Our international economic competitors, however, have learned from that experience and are seeking to build their own "home-field advantage" for the next generation of the Internet - the wireless Internet. In countries like Japan, Germany, Great Britain and France, the governments have made available blocks of spectrum for next generation wireless services that approximately double the amount of spectrum the U.S. government has made available to its wireless industry. Our competitors' plan is transparent: control the next generation of Internet products and services by giving non-U.S. companies access to the pathway necessary to deliver those products and services.

Militarily, there is almost uniform agreement that the new battlefield will increasingly be an information battlefield. Satellite infrared imaging, for instance, will enable soldiers to see behind the next hill. Real time intelligence updates and maps will show the enemy's latest positions. Leaders on the ground will have voice and data communications with superiors as well as with their own troops. Information superiority becomes a force multiplier for whoever is able to communicate best. Unless our soldiers are going to be dragging wires behind them as they deploy, these capabilities are all going to require the airwaves for their delivery.

The problem is that the airwaves that the rest of the world is allocating or otherwise plans to use for expanded wireless services are the very same spectrum that the American military utilizes for its communications. In the next five years the ability of the American military to deploy or train abroad will be compromised by hundreds of millions of consumers using wireless devices in the spectrum to which U.S. military radios are tuned. Already the growth of

wireless technology abroad has begun to impact U.S. military capabilities. A recent Department of Defense analysis reported on the "nonavailability of alternate [spectrum] bands to provide the high-end frequency component" of command and control systems. The reason these airwaves were not available, according to the report, was the growth of mobile phones. Decisions already made by other countries have, are, and will affect our national security capabilities for years to come.

The seriousness of this situation was exemplified in the joint U.S.-Korean training exercise "Team Spirit" held in late 1999. In order for the U.S. radios to work, several channels of the Korean cellular network had to be shut down. According to a May 22, 2000 article in *Aviation Week & Space Technology*, "There are some U.S. weapons that currently aren't allowed to operate in South Korea out of fear they would interfere with civilian systems." No wonder Major General J. D. Bryan, Vice Director of the Defense Information Systems Agency, recently warned, "If we're not real careful, we face chaos in the wireless environment."

The U.S. military is a forward-deployed force whose international assignments will increasingly be hindered by the conflict between airwave assignments made at home and those made abroad. In a "double whammy" affecting both U.S. military and economic security, the governments of the world simply changed the rules. For the purpose of spurring Internet-related growth, they reallocated to wireless phone use vast amounts of the very same piece of the airwaves the U.S. military relies upon for its communications because that is what has been assigned to it here at home.

Fortunately, there appear to be solutions. Some solutions may be more costly than others -- but not as costly to our national defense as losing the opportunity to modernize and upgrade older military equipment. Deploying new spectrum-hopping, frequency agile radios for both ground and air tactical communications could help solve some problems. By tuning across a wider band and then having the flexibility to jump from one frequency to another as conditions warrant, these new radios may solve the problem for our tactical ground troops and aircraft. An area requiring more patience is in satellite communications. With a fifteen-year average life, the lead-time for frequency changes in satellites is longer, but no less manageable.

At a time of concern over budget-busting defense spending, the world's reallocation into domestic U.S. military frequencies paradoxically provides a solution. Because the rest of the world is rapidly increasing the number of wireless users in these same frequencies, the U.S. wireless industry would like to use them as well. Should the Federal government decide to reassign the military to other spectrum and auction these airwaves, the resulting billions of dollars could pay for both the move to new frequency and the necessary upgrades to strategic and tactical equipment. There are 95 megahertz (MHz) of DoD spectrum in the 1755-1850 MHz band allocated to mobile use by the rest of the world. A recent U.S. auction of spectrum blocks ranging from 25 to 30 MHz and covering only about 60% of the population, generated over $17 billion from wireless carriers. The Department of Defense is sitting on a valuable domestic asset whose value can be utilized to help solve the military's international spectrum problem.

This debate over spectrum for advanced mobile services puts a spotlight on the urgent need for some fundamental rethinking of our nation's spectrum management process. We need to create more positive, market-oriented incentives for incumbent users to free up spectrum. And we need to create a more efficient spectrum management process that focuses more on policy goals than on constituent interests. That does not mean that we should ignore the important interests of incumbents, especially when they involve crucial national security requirements. It means we need to find creative, effective and timely ways of making tough spectrum management decisions that leave all affected parties leaving the table satisfied that their interests have been addressed.

One immediate step Congress could take to advance these goals would be to pass legislation to ensure that the proceeds of an auction could be used by the incumbent to move sooner allowing the auction winner to immediately utilize the spectrum acquired. Normally this would entail using those proceeds to pay the relocation expenses of the incumbent, but in some circumstances the funds could be used to enable the incumbent to modify its equipment to share with the new licensed uses. Congress might also consider earmarking an additional percentage of the auctions' proceeds for the incumbent user, to help give incumbents a positive incentive to

turn in spectrum for auction. If incumbents were guaranteed that their needs would be accommodated and paid for, and that they could obtain some additional revenue as well, they would have a greatly increased incentive to turn back spectrum that could be auctioned. The result in the long run could be not only more efficient spectrum management, but higher revenues for the U.S. Treasury. In this particular instance, I believe it absolutely imperative the Congress guarantee DoD reimbursement funding and additional monetary incentives to move, with funds, to modernize and upgrade DoD capabilities. The test should be to maintain and enhance capabilities – not fall on your sword for a piece of spectrum that will be compromised by the decisions of other nations.

This kind of "win-win" requires the implementation of a rational spectrum policy. Unfortunately, the United States does not have the kind of spectrum policy that would facilitate either this evolution, or taking advantage of the potential funding mechanism. In fact, the U.S. has no spectrum policy that can effectively deal with such a multi-faceted problem. What has passed for spectrum policy has been budget policy decisions about when to sell pieces of the airwaves in order to generate funds for the Treasury. As the Defense Department's Defense Science Board has observed, the system is broken. That unfortunate situation hurts both military capability and economic competition.

The seriousness of the spectrum issue to American combativeness and competitiveness calls for dedicated solution-oriented efforts by both the defense community and the wireless industry. Denying the economic viability of next generation wireless services in hopes of forestalling the inevitable need to deal with the spectrum crisis is not a solution. New technologies never come forth without hiccups. The military saw this with the Patriot Missile, Tomahawk Cruise Missile, Abrams Tank and Osprey aircraft, and the same will be true of the new technology of the wireless Internet. History's message is clear: those who place their bets against technological advancement are "betting on a nag."

The wireless industry is most fortunate that this Administration has taken several bold steps to correct a decade-long refusal to make tough decisions. Secretary Evans just last week directed the National Telecommunications and Information Administration to work with the

FCC to develop a new plan for (3-G) advanced mobile services. Secretary Evans even suggested flexibility in the statutory auction dates for 1710 to 1755 MHz and 2110 to 2150 MHz may be necessary to implement the new spectrum plan. Additionally, over the past 3 months, various Executive Branch agencies have been brought together under the able direction of the White House NEC and NSC to address the spectrum problem. The White House attention to finding a solution to this decade-old problem has been most helpful. The industry is encouraged that some of the best and brightest minds in the Administration are committed to finding a solution that is good for the economy and our national security.

An opportunity appears to exist to demonstrate the good faith possibilities of cooperation in the evolution to new military technology and continued wireless competitiveness. In recent Capitol Hill briefings the Defense Department indicated that approximately half of all the Department's spectrum usage for fixed wireless applications is by the Army Corps of Engineers to do remote monitoring of water levels, alarms and dams. Tying up that spectrum for intermittent services that take a quick reading and then report a data burst is not only spectrally inefficient; it is probably also overly expensive. Throughout America, the wireless industry is providing the exact same services on a commercial basis. If the grocery chain Albertson's can use commercial wireless networks to monitor and control electricity in their stores during the California power emergency, the same should be true for the Corps of Engineers to monitor water levels. What's more, buying a shared service will no doubt be much lower cost than building a stand-alone system with its own allocated airwaves. That spectrum then can be sold and the proceeds put into a Defense Department-only trust fund for the purpose of paying for the next spectrum move (which, in turn, will generate more auction revenue), and for the new technology to assure information dominance on the ground, in the air and at sea.

Right now we are at a unique point in time. Most countries are reducing their monetary commitments to their military. No other country in the world has the available resources, technological know-how and the opportunity to up-grade military communications capabilities to 21st century systems. The U.S military has it within its grasp and ability to do what no other

country in the world can do in the current environment – deploy digital end-to-end encrypted state-of -the art communications capabilities. Now is the time to seek a better defense – and a better economy. Unless we act now things will only become more confusing and more intractable. We must not fail to seize upon the win-win opportunity before us – a second rate communication system is no real option for a world leader.