DOCKET FILE COPY ORIGINAL

ORIGINAL

HARRIS, WILTSHIRE & GRANNIS LLP

1200 EIGHTEENTH STREET, NW
WASHINGTON, DC 20036

TEL 202.730.1300 FAX 202.730.1301
WWW.HARRISWILTSHIRE.COM

ATTORNEYS AT LAW

August 28, 2000

BY HAND DELIVERY

Ms. Magalie Roman Salas
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
Washington, DC 20554

Re: ***Comments of Cisco Systems, Inc. in Response to CTIA Petition for Rulemaking, RM-9920***

Dear Ms. Salas:

This letter is submitted on behalf of Cisco Systems, Inc. ("Cisco") in response to the Commission's request for comment on the petition for rulemaking filed by the Cellular Telecommunications Industry Association relating to the implementation of third generation ("3G") mobile wireless services.[1] Cisco wholeheartedly supports the Commission's goal of promoting system deployment to ensure that advanced telecommunications services become available throughout the United States,[2] and it eagerly anticipates the introduction of 3G services as an important advancement in that process. However, the Commission should take care not to advance next generation mobile services by undercutting the next-generation fixed wireless services that have just begun to realize their potential.

Cisco is a worldwide leader in the manufacture of networking equipment. Its corporate goal is to maximize the number of people using the Internet over all technological platforms at the highest speeds possible and as quickly as possible. Accordingly, it has taken a largely technology-neutral approach and currently designs and builds products to

---

[1] *See* Comment Invited on Third Generation Wireless/IMT-2000 Petitions, DA 00-1673 (July 28, 2000).

[2] *See, e.g., Deployment of Advanced Telecommunications Capability: Second Report*, FCC 00-290 at ¶ 267 (rel. Aug. 21, 2000) ("*Second 706 Report*") ("In accordance with our statutory mandate, we are committed to ensuring that advanced services become available to all Americans").

enable broadband access over all available media – from cable and traditional wireline systems to emerging wireless systems both fixed and mobile.

The introduction of fixed broadband wireless technology presents a wide variety of exciting and innovative possibilities for Internet use. Wireless systems will offer consumers an additional competitive alternative to cable modem and digital subscriber line ("DSL") services. Moreover, as the Commission recently recognized, wireless systems can offer a more efficient way for operators to reach consumers for whom advanced services are currently unavailable by extending their reach into currently underserved and unserved areas.[3] Wireless services can cover inner city neighborhoods without digging up streets and tearing out walls and can extend to make service in sparsely populated rural areas a cost-effective proposition. Cisco is currently working with a number of partners to develop and build equipment for a variety of wireless Internet platforms, including local area networks, fixed wireless systems, and 3G.

Cisco firmly believes that 3G technology offers a great opportunity to extend and enhance the Internet experience and enable innovative new services through faster mobile data transmission capabilities. It is excited by the prospect of working with the 3G community to build the technologies that will deliver on the promise of the Information Age. And Cisco agrees with CTIA that, in order to realize its full potential, 3G services will have to be allocated sufficient spectrum to support the transmission of truly broadband applications.

Yet in developing its spectrum strategy for promoting broadband wireless systems, the Commission must not become so focused on 3G that it overlooks the opportunities that other broadband wireless systems present. For example, as a result of a recent series of changes in the Commission's rules, multipoint multichannel distribution service ("MMDS") providers have been liberated to use their spectrum for two-way services. In August 2000, the Commission opened a filing window and it expects that "the resultant authorization of two-way MDS operations will speed the deployment of advanced services by permitting service providers to offer a variety of fixed wireless high-speed services more rapidly."[4] A number of MMDS operators are now in the process of deploying broadband fixed wireless systems that will compete directly with cable and DSL offerings.[5] Analysts predict that broadband fixed wireless equipment will be deployed in approximately 4.4 million homes and offices in the United States alone by

---

[3] *See Second 706 Report* at ¶¶ 200 ("terrestrial wireless has the potential to reach residential consumers and business unserved by cable or DSL"), 222 (wireless technologies may overcome some of the limitations that prevent cable and DSL from reaching customers in outlying areas).

[4] *Id.* at ¶ 263.

[5] *See, e.g.*, www.wcom.com/about_the_company/press_releases/display.phtml?cr/20000814 (discussing Worldcom's plans for licensing and deployment in 60 markets nationwide); www3.sprint.com/Stemp/press/releases/200008/200008221040.html (same for Sprint); www.nucentrix.com/cgi-bin/t3.cgi/search/news.taf (same for Nucentrix).

2004.[6] This deployment will accelerate the spread of advanced service capabilities and, perhaps more importantly, bring broadband Internet access to many areas underserved by existing technologies.

As the Commission has recognized, "it is important to encourage the development and deployment of new, more efficient technologies that will increase the amount of information that can be transmitted in a given amount of bandwidth."[7] Cisco and others are working cooperatively to build equipment with the capacity to offer 22 megabits per second of aggregate throughput using just one of the thirty-two 6 MHz channels available for MMDS use, with additional capabilities that allow service providers to subdivide the bandwidth and data capabilities as necessary to meet the particular needs of their customers. This Vertical Orthogonal Frequency Division Multiplexing ("VOFDM") technology is an open standard that addresses some of the limitations that previously hampered wireless services by significantly increasing the length a signal will carry and mitigating multipath interference. As a result, VOFDM systems can more efficiently cover larger service territories (*i.e.*, rural areas) and can also operate in non-line-of-sight environments (*i.e.*, urban areas).

Two-way MMDS service is poised to move from the developmental phase into full operation, and it promises to grow over the next decade into a robust and fairly ubiquitous offering capable of making innovative use of valuable spectrum resources. However, MMDS systems operate in one of the spectrum bands – 2500-2690 MHz – identified as a candidate for 3G allocations.[8] The Commission should not allow the effort to allocate 3G spectrum to cannabalize another wireless broadband service that is on the cusp of achieving several important goals of the Commission's spectrum policy – competition, spectral efficiency, and greater deployment of advanced services. To the contrary, far from taking any action that might undercut the deployment of MMDS systems, the Commission should actively seek to promote such deployment.[9]

In summary, Cisco supports the Commission's effort to promote the deployment of broadband wireless systems to reach all Americans and believes that the immediate initiation of a proceeding to identify and assess spectrum for 3G services would further that objective. At the same time, Cisco believes that the Commission must take care in

---

[6] *See Second 706 Report* at ¶ 200.

[7] *Principles for Reallocation of Spectrum to Encourage the Development of telecommunications Technologies for the New Millennium*, 14 FCC Rcd. 19868, at ¶ 7 (1999) ("*Spectrum Policy*").

[8] The other potential target band, 1710-1885 MHz, includes 45 MHz of spectrum already available for reallocation and provisionally designated for use in an Advanced Mobile and Fixed Communications Service that would include 3G uses. *Spectrum Policy* at ¶ 23.

[9] As noted in the *Second 706 Report* at ¶¶ 267-268, there are a number of other ways (such as streamlining the approval process for MMDS equipment and for transferring MMDS licenses) in which Commission action could promote deployment of wireless broadband systems.

this process not to overlook or neglect other broadband wireless services – such as MMDS – that are also capable of delivering innovative broadband capabilities to American consumers.

Respectfully submitted,

CISCO SYSTEMS, INC.

By: Scott Harris

Scott Blake Harris
William M. Wiltshire

HARRIS, WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, N.W.
Washington, DC 20036
202-730-1300

Counsel for Cisco Systems, Inc.