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CDMA service providers and operators

We are pleased to have the opportunity to present the views of the CDMA Development Group (CDG) in this Radio Spectrum Policy Group proceeding. The CDG is an international trade consortium of over 100 companies, including the world's leading operators and manufacturers of digital cellular, personal communications services (PCS) and third-generation systems based on Code Division Multiple Access (CDMA) technology.¹ The CDG's mission is to lead the rapid evolution and deployment of CDMA-based systems, embracing open standards and encompassing all core architectures to meet the needs of markets around the world.

There has been tremendous growth in the last several years of third generation ("3G") wireless services based on CDMA2000[®]. CDMA2000 is one of the International Telecommunication Union's (ITU) IMT-2000 (or 3G) mobile standards. CDMA2000 includes two current modes of operation, CDMA2000 1X and CDMA2000 1xEV-DO, with a third mode, CDMA2000 1xEV-DV, expected to be available commercially in 2005. CDMA2000 offers efficient use of spectrum, clear and seamless migration paths from first- and second-generation systems and overall cost efficiencies. CDMA2000 1X delivers peak data speeds of 153 kbps in mobile environments, with CDMA2000 1xEV-DO increasing the data rate to a peak of 2.4 Mbps, which enables the deployment of more bandwidth-intensive applications such as video conferencing. CDMA2000 1xEV-DV provides integrated voice and high-speed packet data services at speeds of up to 3.09

¹ CDMA is a digital air interface for mobile communications networks that builds on the concept of employing a unique code to distinguish each call, enabling the most efficient use of a given spectrum range, and providing greater capacity relative to other commercially available mobile technologies. CDMA is a spread spectrum technology that allows many users to occupy the same time and frequency allocations in a given band. It is the basis of several International Telecommunication Union standards for third generation networks, i.e., CDMA2000, W-CDMA/UMTS, and TD-SCDMA.



Mbps. CDMA2000 can be implemented within existing radio spectrum assigned to cellular, PCS and IMT-2000 systems.

At the end of 2003, there were over 75 million CDMA2000 subscribers, 76 CDMA2000 1X and nine CDMA2000 1xEV-DO commercial networks across all six continents.²

Eleven CDMA2000 1X and four CDMA2000 1xEV-DO networks are scheduled to be deployed in the next year.

The CDG takes this opportunity to respond to selected questions in the Public Consultation on Secondary Trading of Rights to Use Radio Spectrum.

General Questions

1. Do you consider secondary trading of rights to use radio spectrum to be beneficial to consumers, businesses and radio users? Why/why not?

The CDG believes that spectrum trading will facilitate the most efficient use of spectrum and will further stimulate growth and innovation in the provisioning of wireless services if it is based on an approach that embraces technology neutrality and flexible use of spectrum. Spectrum use should not be limited to a given licensee nor should there be restrictions on the type of technology that can be deployed.

Relying on an approach predicated on technology neutrality and spectrum flexibility creates new opportunities, advances competition, and fosters greater choice for consumers. Many countries around the world have recognized the value of this approach and have been experiencing its direct benefits in their markets and economies.

2. What types of transfer of rights to use radio spectrum (full, leasing, partial etc.) do you consider can be beneficial to consumers, businesses and radio users?

While the CDG finds that a full transfer of rights to use radio spectrum would provide a strong incentive for investment and introduction of innovative services that directly benefit consumers, it could be more advantageous to offer a range of options, including leasing, etc., depending on individual market conditions and needs.

3. What rights and associated obligations do you consider should be within the scope of secondary trading of rights to use radio spectrum?

In order to fully realize benefits offered by spectrum trading, the CDG believes that it is important that there be change in use and change in technology provisions for every class of license. Changing of use of licenses can be approached in a variety of ways, including changing a line of business, changing a technology, or changing an application. The CDG

² Reported by the CDG as CDMA Worldwide Subscriber Growth Analysis: January 2004.



believes that this approach will allow operators to continue to update their service offerings and to more quickly deliver new services to consumers. We would only note that it is important to define what constitutes interference for existing licensees and streamline the ability of new users to obtain transmission rights where they do not interfere with existing rights.

Scope of Trading – change of use, reconfiguration

7. Is the possibility to use the spectrum in a flexible way important? If yes, what kinds of flexibility do you consider would benefit consumers, business and users of spectrum (service, technical constraints, other)

It is essential that flexibility be fostered with respect to spectrum use. By adopting a policy of technology neutrality and spectrum flexibility, regulators can ensure that there will be every opportunity for providers to take advantage of emerging transmission technologies and to deploy new and innovative services in the market in a timely manner. The CDG believes that not predetermining what a specific license can be used for, or proposing a limit on the kind of technology that must be used under a given license, offers an approach to spectrum trading that maximizes the ability to bring new services to market rapidly.

A number of markets around the world have already noted how critical spectrum flexibility is with respect to developing overall spectrum policies. For example, South Korea was among the first countries to recognize the value of flexible use of spectrum by permitting in-bound migration to IMT-2000. As a result, SK Telecom was the first operator worldwide to deploy an IMT-2000 system in October 2000. By the end of 2003, Korean operators SK Telecom, KT Freetel and LG Telecom had reached 24.9 million CDMA2000 subscribers, including 4 million CDMA2000 1xEV-DO users; nearly 75% of Korean wireless subscribers use 3G today. SK Telecom reported that advanced applications, which include video on demand, MMS and real-time broadcasts, have contributed to a 50% increase in data revenue, from 12 to 18% of total revenue, in 2003 alone.

Many governments and policy makers in the Americas have also recognized the need for technology neutrality and flexible use of spectrum. As a result, CDMA2000 1X has led the introduction of IMT-2000 technologies with presence in 18 countries in the region; and over 30% of CDMA users in the region have access to 3G services. The United States and Canada support policies that allow operators flexibility in using their existing spectrum and the result has been that operators have deployed innovative, advanced technologies that have contributed to their growth and stimulated use of data services. In Latin America, Chile and Peru have been aggressive in recognizing technology neutrality as a key element of their policies and have allowed several carriers to implement IMT-2000 technologies without obtaining new spectrum, which has benefited consumers through the introduction of affordable voice and data services.

The CDG believes that in developing a sound approach to spectrum trading, it is essential to reinforce the concept of technology neutrality and spectrum flexibility to ensure that



there are opportunities for new services to be deployed in the market and for consumers and the economy to profit from the benefits offered by having a variety of players in the market offering the greatest range of services.

Thank you for the opportunity to participate in this process.