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FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

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Federal Communications Commission  
Office of the Secretary

In the Matter of )  
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Skype Communications S.A.R.L. )  
 )  
Petition to Confirm A Consumer's Right )  
to Use Internet Communications Software )  
and Attach Devices to Wireless Networks )  
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 )

RM-1134

PETITION TO CONFIRM A CONSUMER'S RIGHT TO USE INTERNET  
COMMUNICATIONS SOFTWARE AND ATTACH DEVICES TO WIRELESS  
NETWORKS

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## SUMMARY

As the wireless industry matures, consolidation and the relationship between handset manufacturers and carriers are producing market practices that raise substantial questions about whether consumers are receiving the maximum benefits of wireless competition. For example, carriers are beginning aggressively to influence software and product design to the detriment of consumers.

As the wireless market has matured and wireless handsets have become an integral part of most Americans' lives, carriers are using their considerable influence over handset design and usage to maintain control over and limit subscribers' right to run software communications applications of their choosing. Instead of carrying the subscribers' messages indifferent to content, carriers have exerted more and more control over the way consumers access the mobile Internet. In an effort to prefer their own affiliated services and exclude rivals, carriers have disabled or crippled consumer-friendly features of mobile devices. Carriers are doing so, moreover, in violation of the Commission's *Carterfone* principle and the strictures of the Commission's original order permitting the bundling of consumer equipment and wireless service. The Commission should act now to enforce *Carterfone* and unlock the full benefits of wireless price competition and innovation.

In light of these developments, Skype respectfully requests that the Commission make unmistakably clear that *Carterfone* will be enforced in the wireless industry, to initiate a proceeding to evaluate wireless carrier practices in light of *Carterfone*, and to create an industry-led mechanism to ensure the openness of wireless networks. Doing so will ensure both that consumers retain a right to run the applications of their choosing and attach all non-harmful devices to the wireless network. Finally, Commission involvement will ensure that carriers cannot use illegitimate network management practices as an excuse for otherwise anti-consumer behavior.

## TABLE OF CONTENTS

I.	INTRODUCTION AND SUMMARY.....	3
II.	MARKET STRUCTURE AND THE NEED FOR COMMISSION ACTION .....	8
	A.    The Commission Has Consistently Applied a Policy of Enabling Consumers to Choose What Devices They Attach to the Network.....	9
	B.    Wireless Carriers are Engaging in Restrictive Practices That are Not in the Public Interest.....	13
	1.    Consumer Harm at the Device Layer .....	13
	a.    Product Design and Feature Crippling.....	14
	b.    Locking of Handsets to Particular Operators .....	16
	2.    Consumer Harm at the Application Layer.....	17
	a.    Terms of Service Limitations.....	18
	b.    Lack of Open Development Platforms.....	19
	C.    There Have Been Substantial Changes Since the Commission Last Examined the Effect of Carrier Practices on the Mobile Device Market.....	20
III.	THE COMMISSION SHOULD DECLARE THAT WIRELESS CARRIER SERVICES ARE FULLY SUBJECT TO <i>CARTERFONE</i> .....	25
IV.	THE COMMISSION SHOULD INITIATE A RULEMAKING PROCEEDING TO ENFORCE THE MANDATE OF <i>CARTERFONE</i> IN THE WIRELESS INDUSTRY. ....	28
V.	THE RULEMAKING PROCEEDING ALSO SHOULD CREATE A MECHANISM TO PROTECT CONSUMERS' RIGHTS TO USE THE INTERNET COMMUNICATIONS SOFTWARE OF THEIR CHOICE .....	30

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Software Of Their Choice and Attach )  
Non-Harmful Devices to Wireless )  
Networks )

RM - \_\_\_\_\_

**PETITION TO CONFIRM A CONSUMER'S RIGHT TO USE INTERNET  
COMMUNICATIONS SOFTWARE AND ATTACH NON-HARMFUL  
DEVICES TO WIRELESS NETWORKS**

Skype Communications S.A.R.L. hereby submits this Petition to request enforcement of the Commission's *Carterfone* principle in the market for wireless communications and Internet access.

Wireless companies have succeeded in bringing a wide range of telephony services to market and have made commendable strides since the FCC first allocated spectrum to their use. Yet, as the wireless industry matures, carriers are beginning aggressively to influence software and product design to the detriment of consumers. Consolidation and the relationship between handset manufacturers and carriers are producing market practices that raise substantial questions about whether consumers are receiving the maximum benefits of wireless competition.

At the same time wireless carriers were building out their networks, the software industry was building out its capabilities by inventing applications that run on broadband platforms of every variety, including wireless. Whereas in the past services were inextricably tied to a particular transmission medium, applications like Skype have been uncoupled from the underlying Internet access network and can operate across heterogeneous broadband platforms.

In the wireless arena, however, carriers are using their considerable influence over handset design and usage to maintain an inextricable tying of applications to their transmission networks and are limiting subscribers' rights to run applications of their choosing. Carriers are doing so, moreover, in violation of the Commission's *Carterfone* principle and the strictures of the Commission's original order permitting the bundling of consumer equipment and wireless service.

In light of these developments, Skype respectfully requests that the Commission declare that *Carterfone* applies fully to wireless networks, to initiate a rulemaking proceeding to evaluate wireless carrier practices in light of *Carterfone* and to enforce *Carterfone*, and to create an industry-led mechanism to ensure the openness of wireless networks. Doing so will ensure both that consumers retain a right to run the applications of their choosing and a right to attach all non-harmful devices to the wireless network. These essential rights will prevent carriers from using illegitimate network management practices as an excuse for otherwise anti-consumer behavior.

The Commission should act now to enforce *Carterfone* and the requirement to maintain an open network to unlock the full benefits of wireless price competition and innovation. It has been almost 15 years since the Commission last took a comprehensive look at the wireless industry and its practices that impact the Commission's *Carterfone* rule. It is an understatement to say that much has changed in the interim; it is time for another look.

## I. INTRODUCTION AND SUMMARY

Consumers' access to wireless services has come a long way since the Commission's decision to allocate spectrum to mobile telephony in 1968.<sup>1</sup> Today, almost forty years later, and some twenty-five years since the first commercial cellular networks were authorized,<sup>2</sup> wireless telecommunications are an unquestioned success, providing mobile telephone service to well over 200 million subscribers.<sup>3</sup> Within the last few years, the number of wireless subscribers surpassed the number of subscribers of traditional, wireline

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<sup>1</sup> *An Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; and Amendment of Parts 2, 18, 21, 73, 74, 89, 91 and 93 of the Rules Relative to Operations in the Land Mobile Service Between 806 and 960 MHz*, Notice of Inquiry and Notice of Proposed Rulemaking, Docket No. 18262, 14 FCC 2d 311 (1968).

<sup>2</sup> *An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems*, Report and Order, CC Docket No. 79-318, FCC 81-161, 86 FCC 2d 469 (1981).

<sup>3</sup> *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Eleventh Report, WT Docket No. 06-17, FCC 06-142, at 96 (rel. Sep. 29, 2006) (Table 1, showing CTIA's estimate of the number of wireless subscribers nationwide) ("*Eleventh CMRS Competition Report*").

telephone service.<sup>4</sup> For many Americans, the wireless handset has become indispensable.<sup>5</sup> Increasingly, consumers are using wireless handsets not only for mobile voice service but for a range of Internet applications that have been customized to run on 3G handsets. These capabilities include mobile Internet calling, such as Skype, and an expanded array of mobile communications applications.

As the wireless market has matured and wireless handsets have become an integral part of most Americans' lives, the nature of the wireless carriers' relationship to their subscribers has changed, and not always for the better. Instead of carrying the subscribers' messages indifferent to content, carriers have exerted more and more control over the way consumers access the mobile Internet. In an effort to prefer their own affiliated services and exclude rivals, carriers have disabled or crippled consumer-friendly features of mobile devices, maximizing their financial advantage at consumers' expense.

The public interest policy issues presented by these carrier practices are not new. In its celebrated *Carterfone* decision, and in later proceedings to oversee wireless carrier consumer equipment bundling practices, the Commission evaluated whether wireless carriers might frustrate innovation or price

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<sup>4</sup> *Local Telephone Competition: Status as of June 30, 2006*, at 1 (Jan. 2007), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-270133A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270133A1.pdf) (listing number of wireline and wireless telephone subscribers as of June 30, 2006 as 172 million and 217.4 million, respectively).

<sup>5</sup> See Roger Cheng, *Telecom Companies Pin Hopes on Developing Mobile Commerce*, Wall St. J. Apr. 17, 2006, at B6 (quoting the Chief Operating Officer of Sprint Nextel as saying "there are only three forgotten things consumers will return home for: a cellphone, a wallet or purse and keys.").

competition. A new inquiry into the carriers' restrictive practices is particularly relevant today, as carriers roll-out a third generation of wireless service. If policy is set correctly, the arrival of 3G services could offer tremendous new sources of price competition provided by entities such as Skype, which offer free or affordable voice calling through applications customized to run on mobile devices. Before anti-consumer practices take root and innovation suffers, the Commission should examine the policies that have guided the industry to date and determine if changes are required to keep wireless communications open to innovation and competition.

The relationship between wireless carriers and handset manufacturers is of increasing concern because a growing number of communications services are going mobile. Just as a growing number of consumers are cutting the cord,<sup>6</sup> we can expect that over time, some consumers will substitute 3G wireless Internet access for wired Internet access. Therefore, the time is right to set the basic rules of the road for that transition to ensure that the *Carterfone* principle is honored in the market for mobile communications and Internet access.

Skype requests that the Commission initiate a proceeding explicitly to enforce its *Carterfone* policy in the mobile communications and Internet age. The Commission's *Carterfone* policy allowed consumers to attach any device to the

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<sup>6</sup> See *Eleventh CMRS Competition Report* at 89-90, paras. 205-07 (citing various studies estimating that, in late 2005, approximately eight percent of U.S. households had given up their landlines in favor of wireless phones, twelve percent of wireless phone subscribers use their mobile phone as their only phone, and nearly twenty percent of recent wireless phone purchasers did not subscribe to landline service).

wireline network as long as it did not harm the network.<sup>7</sup> This led to an explosion of innovation in the market for customer premises equipment (CPE). That same principle, applied to Internet applications and other wireless devices, would liberate software innovation and free equipment manufacturers from unreasonable control by carriers, enabling them to incorporate a variety of features in handset. Most importantly, it would stand as an explicit endorsement that consumers have an unfettered right to run applications of their choosing. It would also be an explicit elaboration of the Commission's broadband policy, which establishes that consumers "are entitled to connect their choice of legal devices that do not harm the network" and that "consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement."<sup>8</sup>

As part of such review, the Commission should create a mechanism to increase wireless industry transparency. Doing so will help ensure that the Commission protects users' rights to run the Internet applications of their choosing.

In submitting this Petition, Skype recognizes that software applications such as Skype are part of an interdependent ecosystem of wireless carriers, mobile operating system (OS) developers and device manufacturers. These relationships are fast-moving and multi-dimensional. This Petition urges the

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<sup>7</sup> *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420, 424-25 (1968).

<sup>8</sup> *Broadband Policy Statement*, FCC 05-151, at 3. It should be noted that the Commission specifically cited *Carterfone* as support for the "attachment" principle of its broadband policy. *Id.* at n. 13.

Commission to act as it has done in similar situations,<sup>9</sup> in a manner that balances marketplace competition with meaningful government oversight.

Section II below discusses the background, the current market structure, and the need for action by the Commission. Section II.A discusses the history of the *Carterfone* principle and how it has fostered innovation in various contexts. Section II.B describes several restrictive practices by wireless carriers that raise questions about the nature of carriers' control over the market for wireless devices. Section II.C discusses the significant changes in the wireless marketplace since the Commission last examined the effect of carrier practices on the development of the handset market.

After establishing the need for Commission action, Section III requests the Commission to declare that wireless carrier services are subject to the *Carterfone* principle that consumers have the right to attach any non-harmful device of their choosing to the network and that this, by necessity, includes users' rights to run Internet applications of their choosing.

Having clarified that the principle of *Carterfone* applies to wireless carriers, Section IV asks the Commission enforce it by initiating a rulemaking proceeding to determine whether the wireless carriers' restrictive practices described in Section II.B are consistent with the carriers' full *Carterfone* obligations, including consumers' rights to use Internet communications software of their choosing. As

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<sup>9</sup> For example, the Commission has followed a model of industry standard-setting along with regulatory oversight in establishing compatibility between Cable TV and DTV receivers ("plug-and-play").

part of this proceeding, the Commission also should create an industry-led mechanism, discussed in Section V, to ensure the openness of wireless networks through transparent and neutral technical standards.

## **II. MARKET STRUCTURE AND THE NEED FOR COMMISSION ACTION**

The wireless industry remains the only widely-used communications network in which the network operators exercise effective control over the devices used by consumers. In other contexts, the Commission has applied a basic connectivity principle that limits the ability of network operators to leverage their control over the transmission network into the adjacent market for equipment and the software that runs on that equipment. This principle has led to innovative equipment markets as equipment manufacturers proceed with the assurance that any network-compatible device can compete in the marketplace based on its acceptance by consumers rather than the ability of manufacturers to strike deals with network operators. Likewise, software developers such as Skype are more able to offer innovative products because there is some level of assurance that applications will run as they have been designed. This principle of "innovation without permission" has enabled the Internet software industry to thrive.

**A. The Commission Has Consistently Applied A Policy of Enabling Consumers to Choose What Devices They Attach to the Network**

The basic connectivity principle discussed above was expressed almost forty years ago in the wireline telephone context in the Commission's *Carterfone* decision, which ended telephone carriers' exclusive control over the devices that consumers were allowed to "attach" to the network.<sup>10</sup> In the wired world, since *Carterfone*, consumers have the freedom to attach whatever devices they choose to their phone lines, as long as the device does no harm to the network. This is made possible by technical standards such as those of the RJ-11 telephone jack.

The freedom to attach non-harmful devices to the network was first at issue in the *Hush-a-Phone* case, filed almost six decades ago. In this case, the plaintiff challenged AT&T and other local phone company tariffs that "forbid attachment to the telephone of any device 'not furnished by the telephone company.'"<sup>11</sup> AT&T argued that in order to provide quality telephone service to the public, it needed to provide all equipment itself and prohibit any "foreign attachments." After eight years of litigation, the D.C. Circuit ordered that a telephone subscriber has the "right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental."<sup>12</sup>

The Commission later followed the precedent of *Hush-a-Phone* in the seminal *Carterfone* case, finding invalid a tariff that prohibited "the use of

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<sup>10</sup> 13 FCC 2d at 424-25.

<sup>11</sup> *Hush-a-Phone Corp. v. U.S.*, 238 F.2d 266, 267 (D.C. Cir. 1956).

<sup>12</sup> *Id.* at 269.

interconnected devices which do not adversely affect the telephone system.”<sup>13</sup>

Following *Carterfone*, the Commission progressively deregulated network attachments to allow users to connect any device that complied with a basic set of rules outlined in Part 68 of the Commission’s rules.

In the *Second Computer Inquiry* proceeding, the Commission extended the basic principle of *Carterfone* into the market for enhanced services, requiring that common carriers sell or lease CPE separate and apart from the carrier’s services.<sup>14</sup> In doing so, the Commission wanted to maximize consumer choice by ensuring that they have the ability to choose their own equipment and service packages to meet their needs.<sup>15</sup> The Commission noted that its reasoning “was an outgrowth of [its] *Hush-a-Phone* and *Carterfone* decisions which confirmed the existence of broad consumer rights under Section 201(b) and 202(a) of the Act.”<sup>16</sup> This decision, coupled with the technical standards of Part 68, left equipment manufacturers free to develop such things as the personal modem and then increasingly faster versions of the “Hayes compatible” modem, which in turn led to growing numbers of consumers accessing the Internet via dial-up ISPs.

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<sup>13</sup> 13 FCC 2d at 423. The Commission noted the “[t]he principle of *Hush-a-Phone* is directly applicable here, there being no material distinction between a foreign attachment such as *Hush-a-Phone* and an interconnection device such as the *Carterfone*, so far as the present problem is concerned.” *Id.* at 423-24.

<sup>14</sup> *Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry)*, Final Decision, 77 FCC 2d 384; *modified on recon.*, 84 FCC 2d 50 (1980); *further modified* 88 FCC 2d 512 (1981), *aff’d sub nom.*, *Computer and Communications Industry Ass’n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982), cert. denied, 461 U.S. 938 (1983), *aff’d on second further recon.*, FCC 84-190 (rel. May 4, 1984).

<sup>15</sup> 77 FCC 2d at 443, para. 149.

<sup>16</sup> *Id.* at 440, para. 142.

Given the positive effects of the *Carterfone* principle, Congress extended it beyond its original application in the telephone market. For example, as part of the Telecommunications Act of 1996, Congress established a policy of consumer choice in the market for set-top boxes or navigation devices. In passing Section 629 of the Communications Act, Congress required the Commission to work with industry standard-setting organizations to adopt regulations that ensured the competitive availability of set-top boxes and other equipment used to access video programming. The Commission was to ensure that equipment was to be made available from "manufacturers, retailers, and other vendors not affiliated with" the network operators.<sup>17</sup> In implementing Section 629, the Commission required network operators to cease integrating security and non-security functions in a single device, noting that such a rule would "facilitate the development and commercial availability of navigation devices by permitting a larger measure of portability among them, increasing the market base and facilitating volume production and hence lower costs"<sup>18</sup> and would "allow[] manufacturers to provide a diverse array of equipment."<sup>19</sup> The context was different but the principle was pure *Carterfone*.<sup>20</sup>

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<sup>17</sup> 47 U.S.C. 549(a).

<sup>18</sup> *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Report and Order, CS Docket No. 97-80, FCC 98-116, para. 49 (rel. June 24, 1998).*

<sup>19</sup> *Id.*, para. 61.

<sup>20</sup> See FCC Sets "Aggressive" Schedule for Interoperable Cable Set-top Boxes, Comm. Daily (June 12, 1998) ("Acting [FCC] Cable Bureau Chief John Logan compared [the Commission's set-top box] rules with the FCC's 'Carterfone' principle, which said that any consumer telephone can be connected to the network as long as it doesn't harm the

The innovation principle that is the foundation of the *Carterfone* rule can be described as “modularity” or the “end-to-end” principle – that is, any software designer or manufacturer can build a component of a finished service without seeking the permission of the network operator. In this environment, equipment manufacturers’ incentives are protected because they know they can reach consumers without worrying about whether the network operators will support their devices. This principle is widely recognized as enhancing competition, innovation, and consumer welfare.<sup>21</sup> Whereas in the past services were inextricably tied to the transmission medium, using an end-to-end architecture, applications like Skype have been uncoupled from the underlying Internet access medium. This paradigm shift requires the Commission to likewise shift its *Carterfone* principle to ensure that consumers have an unfettered right to run applications of their choosing.

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network.”)

<sup>21</sup> See, e.g., Ex Parte Submission by Prof. Lawrence Lessig & Prof. Timothy Wu, CS Docket No. 02-52 (Aug. 22, 2003) (discussing the benefits of the “end-to-end” principle and the crucial role the principle has played in the growth of the Internet); Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. Rev. 925 (2001); J.H. Saltzer et al., *End-to-End Arguments in System Design*, in *Innovations in Internetworking* 195 (Craig Partridge ed., 1988) (available at <http://web.mit.edu/Saltzer/www/publications/endtoend/endtoend.pdf>).

**B. Wireless Carriers are Engaging in Restrictive Practices That Are Not in the Public Interest<sup>22</sup>**

**1. Consumer Harm at the Device Layer**

Skype's device partners depend largely on carriers to sell their devices. For the vast majority of U.S. wireless consumers, carriers sell phones that are highly subsidized and mask the true cost of the device.<sup>23</sup> Consequently, the market for wireless devices is unusual and distorted. This market distortion is of increasing concern as handsets become more versatile and are used to access a broader array of functions and services. As long as consumers used wireless service only for simple voice calls, the fact that they were largely confined to using carrier-supplied equipment resulted in limited harm.

However, as innovative "smart phones" marry the versatility of computers with the convenience of mobile equipment, manufacturers are poised to equip handsets with Skype features but are reluctant to do so if such features threaten wireless carriers' established business model. Such a "permission-based" approach to innovation creates an innovation bottleneck, as equipment manufacturers are forced to design equipment based on what carriers will allow, not necessarily what consumers want and the state-of-the-art will permit.

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<sup>22</sup> Professor Tim Wu, of Columbia University Law School, has recently completed a comprehensive study of this issue in a paper entitled, "Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband," available at [http://www.newamerica.net/programs/wireless\\_future](http://www.newamerica.net/programs/wireless_future)

<sup>23</sup> The existence of substantial handset subsidies is used by the industry to justify exorbitant early termination fees (ETFs). The industry seeks to justify ETFs largely by the need to recoup the initial handset subsidy. See Petition of the Cellular Telecommunications & Internet Association, filed March 15, 2005. ETFs are one more way in which the wireless industry restricts the ability consumers to choose among available wireless services, including those based upon Wi-Fi connectivity.

a. **Product Design and Feature Crippling**

A clear example of the problem of wireless carrier control of the device market was the marketing of the Nokia E62/E61 smartphone. The Nokia E61, a high-end e-mail device and phone seen as a competitor to the BlackBerry and Palm's Treo, was released in Europe in the summer of 2006 and received favorable reviews. In the United States, however, Cingular (now AT&T) was the exclusive vendor of a stripped-down model known as the E62 — a crippled model which lacked, among other features, Wi-Fi connectivity, a feature that is increasingly popular among on-the-go consumers. One reviewer described the difference between the E62 and the E61 as follows:

The E61 also can do Wi-Fi. That means it can do lots of things without having to connect to a cellular phone network. What some carriers fear most is the E61's ability to handle VoIP calls when you're near a friendly wireless network. That's why we won't see Wi-Fi on the E62.<sup>24</sup>

The Nokia smartphone marketed in the United States was stripped of a consumer-friendly feature for reasons that are unrelated to any harm that may be caused to the network. Intentionally removing Wi-Fi functionality from the Nokia E62 interferes with a consumer's ability to place Internet calls, thereby harming innovation and price competition.

The Nokia E61/E62 is only one example of a wireless carrier exercising control over the equipment market to disable handset features. Unfortunately,

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<sup>24</sup> Gary Krakow, *The Nokia E62: The Best Smartphone Ever?* (Aug. 24, 2006), available at <http://www.msnbc.msn.com/id/14456766/>.

all carriers appear to engage in such restrictive practices to varying degrees. For example, Verizon typically disables Bluetooth data transfer functionality in handsets so as to require customers to use the carrier's paid services instead of utilizing Bluetooth to accomplish the same goals.<sup>25</sup> A disclaimer on Nokia's website sums up the state of the market for wireless handsets:

Some networks have limitations that affect how you can use phone features. Your service provider also may have requested that certain features not be activated in a phone. If so, they may not appear in the phone's menu. Contact your service provider about feature support and availability.<sup>26</sup>

This disclaimer is merely one expression of the barriers that innovative equipment manufacturers have in satisfying consumer demands.<sup>27</sup>

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<sup>25</sup> Charles Babington, *A Call To Let Your Phone Loose – Telecom's New Battleground: Carriers' Proprietary Controls*, Wash. Post, Feb. 9, 2007, at D1, D3; Shelley Solheim, *Verizon Wireless Users Sue Over Disabled Bluetooth Features* (Jan. 14, 2005), available at <http://www.eweek.com/article2/0,1759,1751567,00.asp>. See also David Berlind, *Buyer Beware: Verizon Wireless and [Sprint Nextel] Disabling Features on Handsets They Sell*, ZDNet Blog Between The Lines (Aug. 2, 2006), available at <http://blogs.zdnet.com/BTL/?p=3415> (describing how some carriers disable a Motorola handset software feature that permits pictures to be transferred from the handset to a PC, and noting that "phone manufacturers are putting cool technologies into their phones (technologies that might cause you to buy them) only to have wireless carriers disable those technologies.").

<sup>26</sup> <http://www.nokiausa.com/phones/comparephones> (last visited Feb. 8, 2007).

<sup>27</sup> See Phil Carson, *Rattling the Cage: Handset Vendors Aim to Satisfy Carriers, But Also Explore Alternative Channels*, RCR Wireless News (Jan. 15, 2007) ("The single thread that emerged unbidden from conversations with the top-tier handset vendors at CES was – in so many carefully chosen words – the issue of carrier dominance in the U.S. market."); Kevin Maney, *FCC Ruling Changed Phone Industry in 1968; It Could Happen Again Today*, USA Today (Jan. 30, 2007), available at [http://www.usatoday.com/money/industries/technology/maney/2007-01-30-carterfone\\_x.htm](http://www.usatoday.com/money/industries/technology/maney/2007-01-30-carterfone_x.htm) ("Cellphone makers want [handsets and service to be unbundled], though they don't like to say so and risk offending their wireless carrier partners.").

**b. Locking of Handsets to Particular Operators**

Another common practice used by wireless carriers is the locking of handsets so that they may not be used on any network.<sup>28</sup> While some carriers permit customers to unlock their phone upon request provided they have been used for a certain amount of time, "most consumers have no idea what a phone lock is" and so are not aware of this option.<sup>29</sup> Locking handsets acts as a barrier for consumers who may wish to switch carriers, or results in additional, unwanted equipment purchases by consumers who are not aware they can use their old handset with a new service. Handset locking is an increasing concern as handsets become more advanced, since consumers who make significant financial investments in their handsets are likely to want to retain their handsets from one service to another.<sup>30</sup>

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<sup>28</sup> To be sure, not all handsets will work on all networks because of technical differences between networks (e.g., CDMA vs. GSM). The principle of *Carterfone* is not blind to such issues of technical feasibility. However, the locking of handsets by carriers goes well beyond the question of technical compatibility by limiting handsets to a particular network even when the handset could otherwise work on the network of a competing carrier.

<sup>29</sup> Babington, *supra* note 22, at D3 (quoting Columbia Law Professor Timothy Wu).

<sup>30</sup> Handset locking is only one way in which wireless carriers prevent or at best discourage consumers from "porting" their handsets to a different service. Other tactics include exclusive deals with equipment manufacturers and early termination fees (ETFs). See Babington, *supra* note 22, at D3 ("Some hold up Apple's iPhone as another example of the industry's restrictive practices, because it will operate only on AT&T's mobile service when it goes on sale this summer."); Maney, *supra* note 24 ("Millions of customers of Verizon Wireless or Sprint or T-Mobile would probably like to buy an Apple iPhone to replace their current phones, and just plug in a little chip and make it work on their existing calling plans. Can't happen. The iPhone will work only on AT&T's Cingular wireless network."). See also Wall Street Journal, February 17, 2007, p. A1, for a description of the extraordinary effort that Apple made to break the hold of the wireless carriers in order to develop the iPhone ("Apple bucked the rules of the cellphone

*It should be noted that the phone locking practices of U.S.-based wireless carriers are at odds with those of wireless carriers in most other countries. For example, in most European and Asian countries, consumers can readily purchase unlocked handsets that they can use with separately-purchased SIM cards. As frequent travelers to Europe may know, this enables European consumers to swap SIM cards as they travel from country to country, giving them a domestic phone number and enabling them to make domestic calls in each country. The same is true in most Asian countries. While regulators in most countries do not prohibit handset locking outright, they typically ensure that locking is done for legitimate purposes only – such as to prohibit theft or fraud and the enforcement of a rental or installment contract, rather than for anti-competitive reasons – and that consumers are made aware of handset locks and how to unlock them.<sup>31</sup>*

## 2. Consumer Harm at the Application Layer

The issues presented by this Petition address the interaction between device manufacturers and wireless carriers, but the issue of paramount concern

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industry by wresting control away from the normally powerful wireless carriers. These service providers usually hold enormous sway over how phones are developed and marketed – controlling every detail from processing power to the various features that come with the phone.”).

<sup>31</sup> See, e.g., *The Commission Takes Action to Prevent Anti-Competitive Practices in the Mobile Phones Sector*, Reference IP/96/791, Aug. 08, 1996 (describing European Commission efforts, including warning letters to wireless carriers, to ensure that SIM card locks are not used for anti-competitive purposes); *Way Forward of “SIM Lock,”* Statement by the Telecommunications Authority of Hong Kong, Feb. 20, 1997, available at <http://www.ofta.gov.hk/en/tas/mobile/ta970220-content.html>.

for Skype is establishing a consumer's right to use Internet communications software that does not harm the network. Wireless carriers have inhibited the development of application-layer competition by insisting on a closed or "walled garden" approach toward 3G networks, shutting out device features and applications for reasons that appear unrelated to any "harm to the network." Wireless carriers also restrict consumers' ability to access innovative applications and services that they perceive as competing with their own (or their favored) applications and services.

**a. Terms of Service Limitations**

Today, the major U.S. wireless carriers offer, or will soon offer, some form of 3G Internet access. However, the largest wireless operators include in their terms of service explicit limitations that make it impossible for consumers to use the full features of 3G devices to access and utilize applications and services of their choosing.<sup>32</sup> These terms of service typically prohibit the use of the 3G service for VoIP applications such as Skype. While advertised as "unlimited" services, a closer inspection reveals the real limitations of these services:

Verizon: "Unlimited Data Plans and Features . . . may ONLY be used with wireless devices for the following purposes: (i) Internet browsing; (ii) email; and (iii) intranet access . . . . *The Unlimited Data Plans and Features MAY NOT be used for any other purpose.* Examples of prohibited uses include, without limitation, the following: (i) continuous uploading, downloading or streaming of audio or video programming or games; (ii)

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<sup>32</sup> In the case of Sprint, the Terms of Service withdraw from consumers the right to an ill-defined category of "heavy" or "continuous" services. See *Sprint Terms and Conditions*, available at <http://www.sprintpcs.com/common/popups/popLegalTermsPrivacy.html> (last visited Feb. 12, 2007).

*server devices or host computer applications, including, but not limited to, Web camera posts or broadcasts, automatic data feeds, automated machine-to-machine connections or peer-to-peer (P2P) file sharing . . . .*<sup>33</sup>

AT&T/Cingular: "Prohibited uses include, but are not limited to . . . (iii) for Voice over IP."<sup>34</sup>

As with the practice of disabling handset features and handset locking, the terms of service appear to go well beyond prohibiting activities that might harm the network; instead, they are designed to prevent the use of applications and services for competitive reasons. Such restrictions on the services that a subscriber's handset can access go beyond a carrier's reasonable business interests and impinge upon the right of consumers to make full use of the equipment and service they have purchased.

#### **b. Lack of Open Development Platforms**

In stark contrast to open development standards that exist on the Internet, wireless carriers have exerted control over devices as well as the mobile operating systems upon which they run. Many have instituted an elaborate set of application locks that make running unaffiliated applications like Skype difficult if not impossible. In the market for 3G-enabled devices carriers' qualification and approval — or whitelisting — requirements are opaque and shifting. The lack of clarity around these standards acts as a significant barrier to

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<sup>33</sup> <http://www.verizonwireless.com/b2c/store/controller?item=planFirst&action=viewPlanDetail&catId=409> (last visited Feb. 12, 2007) (emphasis added).

<sup>34</sup> [http://www.cingular.com/b2b/downloads/terms\\_wirelessDataService.pdf](http://www.cingular.com/b2b/downloads/terms_wirelessDataService.pdf) (last visited Feb. 12, 2007).

the nearly unlimited number of application developers writing software for the mobile Internet.

For example, BREW and JAVA development environments require Skype to obtain the permission of the device manufacturers and the particular underlying carrier before our software can pass through various locks installed in these development environments. Of course, Skype recognizes that some level of cooperation is required among carriers, device manufacturers, mobile OS developers, and application developers. However, such cooperation should be based on transparent technical standards designed to (1) protect the integrity of the network, and (2) otherwise enable consumers to run applications like Skype as they have been designed. Transparency and clarity around these two issues will expand the range of innovative services that U.S. wireless consumers can choose from and enable new modes of price competition.<sup>35</sup>

**C. There Have Been Substantial Changes Since the Commission Last Examined the Effect of Carrier Practices on The Mobile Device Market**

It has been almost fifteen years since the Commission examined the influence of wireless carriers on the wireless handset marketplace, when it addressed the distinct issue of whether wireless carriers should be permitted to bundle together handsets and service.

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<sup>35</sup> See Babington, *supra* note 22, at D3 (quoting Art Brodsky of Public Knowledge as saying “[p]eople now don’t understand how limited they are in what they can do with their cellphones.”).

In a 1992 *Report and Order*, the Commission permitted "cellular CPE and cellular service to be offered on a bundled basis, provided that cellular service is also offered separately on a nondiscriminatory basis."<sup>36</sup> The risks of bundling wireless service with handsets would not have been accepted without the safety valve of the unfettered availability of wireless service only. Many factual and competitive characteristics underlay the Commission's decision. Since 1992, however, most of those characteristics have changed in a way that calls the Commission's analysis into question.

There are, moreover, additional aspects of today's wireless marketplace that have a strong bearing on the Commission's decision. In particular, the incentives and practices of the wireless carrier described above raise the question of whether carriers are complying with the critical proviso of offering unfettered, nondiscriminatory service to consumers irrespective of their equipment.

One basic change has been in the structure of the wireless marketplace; following consolidation, there are a smaller number of carriers in the market, a market many regard as oligopolistic. For example, the average Herfindahl-Hirschman Index values in the mobile telephony market are 2706, well above 1800 which the FTC and DOJ consider "highly concentrated."<sup>37</sup>

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<sup>36</sup> *Bundling of Cellular Customer Premises Equipment and Cellular Service*, Report and Order, CC Docket No. 91-34, FCC 92-207, 7 FCC Rcd 4028, 4028 (1992) ("CPE Bundling Order").

<sup>37</sup> *Eleventh CMRS Competition Report* at 21, para. 45 (noting average HHI); U.S. Dept. of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, Apr. 8, 1997, at 15, Section 1.5, available at <http://www.usdoj.gov/atr/public/guidelines/hmg.pdf> (noting that markets with HHIs above 1800 are characterized as "highly concentrated").

In permitting carriers to bundle cellular service and handsets in 1992, the Commission observed a market in which most wireless carriers were smaller and operated in local markets, making it unlikely that they could “possess market power that could impact the numerous CPE manufacturers operating on a national... basis.”<sup>38</sup> This situation has changed dramatically, as the market is now dominated by four, large nationwide carriers with large enough subscriber bases to exert significant influence on handset manufacturers.<sup>39</sup> The simple truth is that manufacturers depend upon carriers to market their devices, and no manufacturer can afford not to “play ball” with the largest wireless carriers.

Furthermore, the Commission’s analysis in 1992 focused almost exclusively on the pricing of handsets within a market limited to voice services. However, as discussed above, many new 3G handsets do much more than mobile voice communications, and many support running Skype. Accordingly, the issue today is not simply whether wireless carriers can control the market for basic wireless voice telephony, but whether they can control the adjacent markets for applications and services that use the carriers’ 3G platform. In such a market, the Commission should be concerned not only with anticompetitive effects *vis-à-vis* other wireless carriers but also with the effect on device innovation and the possibility that entities will frustrate new sources of price competition to

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<sup>38</sup> *CPE Bundling Order* at 4029-30.

<sup>39</sup> AT&T/Cingular, Verizon, and Sprint Nextel are clearly the three largest carriers, and each possess enough market share — approximately 25 percent each — to exert effective control over equipment manufacturer practices. See *Eleventh CMRS Competition Report* at 102 (Table 4).

traditional voice services. Thus, when a carrier requests that a manufacturer disable a handset's Wi-Fi functionality, this act may have little competitive impact on other wireless carriers, but it will adversely impact consumers who could benefit from new forms of price competition from applications such as Skype.

Similar concerns arise when carriers disable features such as Bluetooth functionality, as carriers once again are favoring their own "additional" services – music and video downloads, photograph and other file transfer, etc. – over those offered by unaffiliated third-parties. In each instance, consumers are worse off as competition – broadly defined as competition for services the consumer desires irrespective of the particular technology used – is diminished.

In light of these and similar practices, the Commission has sufficient cause to examine whether carriers are true to the nondiscriminatory unbundled service condition that permitted them to bundle handsets and service in the first place.<sup>40</sup> By locking handsets, entering into exclusive distribution agreements, and imposing early termination fees, wireless carriers are discouraging – and in some instances obstructing – consumers from accessing the carrier's service with their own fully-functioning, fully-capable handsets.

In any such examination, the Commission should consider whether there is sufficient competitive discipline in the marketplace to avoid the need for a regulatory corrective. In so doing, there is an understandable impulse for

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<sup>40</sup> *CPE Bundling Order* at 4030, 4032.

regulators to rely on markets to self-correct and solve problems in advance of government solutions, which may be perceived as intrusive and clumsy.

However, even with the presence of a number of facilities-based wireless competitors, there is cause for concern. While competition among wireless carriers may be sufficient to act as a check on the pricing of services, the four large national wireless carriers have the same incentive to avoid commoditizing their voice service; and thus the same need to control subscribers' handsets and the applications and software that run on them.

For example, with respect to the restrictive practices described above, no single carrier is likely to change its ways on its own because doing so would only make it easier for its customers to use competitive services. In this respect, the marketplace inertia that is keeping carriers from adopting better practices — *e.g.*, unlocking consumer handsets and making them “portable” — is closely analogous to the inertia that the Commission recognized when it required wireless local number portability (“LNP”). As the Commission explained when it rejected a petition for permanent forbearance from the wireless LNP rules:

[W]e are not convinced that market forces would ensure implementation of LNP. Although certain carriers may want all wireless carriers to implement LNP because they believe it will result in a net gain of subscribers, other carriers may feel differently and will not have any incentive to implement LNP because they may be convinced that industry-wide LNP will only serve to make it easier for their subscribers to leave them. Consequently, it is unlikely for the entire industry to agree to move to wireless LNP voluntarily. In addition, there may be economic disincentives for any individual carrier to be the first to voluntarily adopt full LNP, which would provide its subscribers the flexibility to switch to a

different carrier while retaining their current phone numbers. This is because, absent the implementation of full LNP by other wireless carriers, that carrier could not gain any new wireless customers from the non-participating wireless carriers.<sup>41</sup>

This analysis applies just as well to the issues presented by this Petition.

Skype would be in a position to know whether any 3G wireless carrier has adopted a "maverick" approach to this market, but regrettably, none has emerged. Skype understands that there is a natural impulse on behalf of regulators to assume that the anti-consumer practices of wireless providers will naturally self-correct through such "maverick" behavior. The fact that no "maverick" has emerged may say more about the business models of the leading four wireless carriers and their reliance upon selling minutes or buckets of minutes than any technological impediment to enhanced innovation and price competition from software-defined services.

### **III. THE COMMISSION SHOULD DECLARE THAT WIRELESS CARRIER SERVICES ARE FULLY SUBJECT TO CARTERFONE**

In light of the changes in the wireless market and the restrictive carrier practices described above, the Commission should make clear that subscribers have the right to attach non-harmful devices to their wireless networks and run applications of their choosing. Such a consumer right flows directly from both the Commission's *Carterfone* decision and the 1992 *CPE Bundling Order's*

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<sup>41</sup> *Verizon Wireless's Petition for Partial Forbearance from the Commercial Mobile Radio Services Number Portability Obligation*, WT Docket No. 01-184, FCC 02-215, para. 21 (rel. July 26, 2002).

requirement that “that cellular service is also offered separately [from bundled equipment] on a nondiscriminatory basis.”<sup>42</sup>

The Commission should issue a declaratory ruling stating that the *Carterfone* right to attach fully-capable, non-harmful devices applies to all services offered by wireless carriers. The principle of *Carterfone* derives from Sections 201 and 202 of the Communications Act, as preventing consumers from attaching devices of their choosing was found to be unjust and unreasonable under Section 201(b) of the Act and unduly discriminatory under Section 202(a) of the Act.<sup>43</sup> While the Commission has forbore from applying several sections of Title II to wireless carriers, it has made clear that such carriers remain subject to Sections 201 and 202.<sup>44</sup> The Commission has also made clear that the “bedrock consumer protection obligations”<sup>45</sup> of Sections 201 and 202 apply “even when competition exists in a market.”<sup>46</sup> Moreover, with respect to the *Carterfone* principle, the Commission has acknowledged wireless consumers’ existing *Carterfone* right to attach CPE of their choice when it noted that “current

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<sup>42</sup> *CPE Bundling Order* at 4029.

<sup>43</sup> *Carterfone*, 13 FCC 2d at 423.

<sup>44</sup> *Personal Communications Industry Association’s Broadband Personal Communications Services Alliance’s Petition for Forbearance For Broadband Personal Communications Services; Forbearance from Applying Provisions of the Communications Act to Wireless Telecommunications Carriers*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, WT Docket No. 98-100, FCC 98-134, 13 FCC Rcd 16,857, 16,865-66, paras. 15-18 (rel. July 2, 1998) (noting that Sections 201 and 202 codify “the bedrock consumer protection obligations” and that their existence “gives the Commission the power to protect consumers by defining forbidden practices and enforcing compliance.”) (“*PCIA Forbearance Order*”).

<sup>45</sup> *Id.* at 16,865, para. 15.

<sup>46</sup> *Id.* at 16,866, para. 17.

nondiscrimination requirements preclude a cellular carrier from refusing to provide service to a customer on the basis of what CPE the customer owns."<sup>47</sup>

Furthermore, to the extent that some services offered by wireless carriers, now or with respect to a future regulatory classification, do not fall under Title II,<sup>48</sup> the Commission should declare that consumers have the right to attach non-harmful devices to wireless networks, regardless of whether such networks provide services classified under Title I or Title II. Such a declaration can be made either as an exercise of the Commission's ancillary jurisdiction or directly through Title II. Wireless handsets that are subject to a *Carterfone*-based right to attach typically are used to access both voice services (regulated under Title II) and non-voice services such as 3G/broadband Internet access (which may be classified as under either Title I or Title II). Indeed, as stated above, the Commission has found that *Carterfone*'s basic nondiscrimination principle - as to both "attachments" and applications - applies to wireline broadband services regulated under Title I.<sup>49</sup>

Thus, wireline broadband services — where service providers exercise virtually no control over the equipment used by consumers to access the network

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<sup>47</sup> *CPE Bundling Order* at 4030.

<sup>48</sup> Statement of Hon. Kevin J. Martin Before the Committee On Commerce, Science & Transportation, U.S. Senate, Feb. 1, 2007, at 7 ("The Commission is also considering an order that would classify wireless broadband Internet access as an information service.").

<sup>49</sup> *Broadband Policy Statement*, FCC 05-151, at 3. The Commission has also made clear that, even though such services were regulated under Title I, it has the "jurisdiction necessary to ensure that providers of telecommunications for Internet access or [IP-enabled] services are operated in a neutral manner." *Id.*

— are subject to consumers' entitlement to "connect their choice of legal devices that do not harm the network."<sup>50</sup> Wireless broadband services regulated under Title I also should be subject to this same right to "attach" and right to run applications and use services of their choice. This is particularly the case since, as discussed above, wireless carriers exert far more control over the development of equipment used to access their services than do wireline providers exert over their broadband networks. Over time, consumers will roam seamlessly between 3G, Wi-Fi and traditional wired phone networks. It makes little sense for a consumer to surrender her right to attach any non-harmful device as soon as she leaves her home, even though a voice session could technically interoperate between all three networks.

#### **IV. THE COMMISSION SHOULD INITIATE A RULEMAKING PROCEEDING TO ENFORCE THE MANDATE OF *CARTERFONE* IN THE WIRELESS INDUSTRY.**

Once the Commission issues the declaratory ruling requested above, it should enforce the mandate of *Carterfone* by initiating a rulemaking proceeding to determine whether the wireless carriers restrictive practices outlined in this Petition comport with the carriers' obligations under the *Carterfone* principle and the open network proviso of the 1992 *Bundled CPE Order*. As discussed in Section II. C. of this Petition, it has been almost 15 years since the *Bundled CPE Order* was adopted. It is now time for the Commission to reexamine the effect of wireless

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<sup>50</sup> *Id.* at 3 (citing *Hush-a-Phone* and *Carterfone*).

carrier practices on the full availability and application/software functionality of wireless CPE.

The structure of the wireless personal communications industry has changed dramatically since 1992, with four national carriers dominating a national market and able to exert significant influence on handset manufacturers. Restrictive carrier practices call into question whether wireless carriers are complying with the critical proviso that they provide unfettered, nondiscriminatory service to consumers irrespective of their equipment and what applications and software are running on that equipment. A consumer's right to attach a non-harmful device of his choosing to the network means little if the only devices that are available to consumers have applications and software controlled by the network operator.

The Commission should initiate a rulemaking proceeding in which it examines carrier practices with respect to the wireless handset industry and software marketplace. In addition to reexamining the structure of the market and such relationships, the Commission should examine whether carrier practices such as device whitelisting, feature crippling, handset locking, exclusive equipment deals, terms of service limitations, and the lack of open platforms are consistent with the "bedrock consumer protection obligations" of Sections 201 and 202 of the Act and expressed in *Carterfone*.

*It is important to emphasize that nothing about the relief requested in this* Petition would entangle the FCC in policing intricate or difficult to identify anti-consumer behavior. Instead, through enforcement of a straightforward attachment principle, the Commission will have succeeded in unlocking a vast new source of price competition and innovation for wireless users.

**V. THE RULEMAKING PROCEEDING ALSO SHOULD CREATE A MECHANISM TO PROTECT CONSUMERS' RIGHTS TO USE THE INTERNET COMMUNICATIONS SOFTWARE OF THEIR CHOICE**

Following its *Carterfone* decision, the Commission established a set of technical standards, codified in Part 68, which enabled users to connect any device that complied with a basic set of rules. Concurrent with the notice of inquiry described above, the Commission should create a mechanism to establish similar technical standards updated to take into account the unique environment of the mobile Internet. The goal should be to create transparent and neutral standards under which consumers can exercise their right to run the Internet communications applications of their choice.<sup>51</sup>

Skype recognizes the critical need for broad industry involvement and cooperation in this effort. Skype approaches these issues with humility, recognizing that application-layer competition depends in part upon the 3G deployment efforts of wireless carriers. However, it is equally true that maximizing consumer benefits also depends upon innovation by third-party

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<sup>51</sup> In this regard, the Commission may wish to pattern its procedures upon those found in Section 68.201 of the Commission's rules.

application developers, as well as some level of oversight over carrier implementation of technical standards. The Commission can provide an essential mechanism that will facilitate the goal of device connectivity.

In this regard, the Commission should establish a mechanism to create technical standards that protect the *Carterfone* principle with respect to the market for applications that run on 3G Internet access networks. The technical standards should: 1) enhance consumer choice; 2) increase price competition from software-defined services; 3) forward innovation; and 4) preserve network integrity. Skype suggests that this mechanism should include an industry-led forum having the following clearly-defined elements:

- All interested parties – carriers, device manufacturers, mobile OS developers, consumer groups and application developers – should be allowed to participate.
- Representatives from the FCC's Office of Engineering and Technology should oversee these industry efforts.
- The forum should be empowered to solicit the advice of academics and other experts to support the FAC's work.
- The forum should complete its work by a specified date and issue interim reports as necessary.
- The Commission should express its intention to implement the group's findings.

The goal of this forum would be to protect the *Carterfone* principle as applied to 3G Internet access networks so that: "no entity can enforce techniques such as blocking, locking, or certification requirements that have the intention of preventing consumers from modifying or installing software unless it is

reasonably proven that such software harms the network." Clarity around this issue will ensure that carrier's network management techniques are respected but will never become a pretext for activity that is anti-consumer or anticompetitive.

In the end, updating this Commission's *Carterfone* principle for an era of software-defined services would unlock tremendous new forms of price competition and innovation for consumers. We therefore respectfully request that the Commission grant the Petition to the extent described herein.

Respectfully submitted,

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