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June 15, 2007

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *In the Matter of Broadband Industry Practices, WC Docket No. 07-52*

Dear Ms. Dortch:

Please find enclosed for filing in the above-referenced docket the comments and reply comments that T-Mobile has previously filed in RM-11361, *In the Matter of Skype Communications S.A.R.L. Petition to Confirm a Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks*.

T-Mobile is submitting these comments because the Notice in this proceeding is broad enough to encompass many of the issues addressed in RM-11361. In considering the broad issues in this proceeding, T-Mobile urges the Commission not to lose sight of the fundamental characteristics of the wireless market, as discussed in the enclosed comments. These characteristics make it especially inappropriate to impose new regulatory mandates, in the name of "network neutrality," on this intensely competitive and fast-moving market. Such regulatory intervention would not confer greater benefits on consumers than marketplace forces are conferring, but would *disserve* the public interest by depressing investment and innovation.

Respectfully submitted,

/s/ William T. Lake

cc: Heather Hendrickson

William Lake

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Skype Communications S.A.R.L.)	
)	
Petition to Confirm a Consumer's Right to Use)	RM-11361
Internet Communications Software and Attach)	
Devices to Wireless Networks)	

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COMMENTS OF T-MOBILE USA, INC.

T-Mobile USA, Inc. ("T-Mobile") submits these comments in response to the petition filed by Skype Communications S.A.R.L. ("Skype") on February 20, 2007, in this docket. Skype asks the Commission to (1) apply *Carterfone* restrictions to wireless networks, (2) begin a rulemaking proceeding to evaluate wireless carrier practices in light of *Carterfone*, and (3) create a mechanism for industry participation — overseen by the Commission^{1/} — to establish technical standards to govern the wireless applications development environment. T-Mobile opposes the Petition in its entirety.

^{1/} Although the Commission's public notice suggests that Skype has requested formation of an *industry*-led mechanism for this purpose, *see* Public Notice, "Consumer & Governmental Affairs Bureau Reference Information Center Petition For Rulemakings Filed," Report No. 2807, RM-11361 (rel. Feb. 28, 2007), the Petition specifically requests a *Commission*-led mechanism with participation by all interested industry parties. *See* Petition of Skype Communications S.A.R.L. to Confirm a Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks in RM-11361, at 31 (filed Feb. 20, 2007) ("Skype Petition") ("Representatives from the FCC's Office of Engineering and Technology should oversee these industry efforts.").

INTRODUCTION AND SUMMARY

The Commission's deregulatory wireless policies have been one of the agency's greatest successes. Those policies — specifically including the 1992 decision to allow bundling of handsets with services — have enabled wireless services to flourish, producing the most highly competitive marketplace in the communications industry. As a result, wireless consumers have myriad choices of carriers, services, equipment, and pricing plans, and they enjoy ever-increasing call quality and ever-decreasing prices. Indeed, the industry is a study in constant evolution driven by consumer demand and carrier efforts to differentiate themselves.

By all accounts, nothing in this thriving marketplace is broken. Even Skype acknowledges the “unquestioned success”^{2/} of today's wireless marketplace — yet it urges regulators to try to “do better” still, through unprecedented regulatory intervention into the workings of the wireless industry.^{3/} Skype offers very little in support of its extraordinary request. It argues that consumers should have more or different options in cellphone equipment, evidently in the hope of boosting use of its VoIP applications over wireless networks. To the same end, Skype also seeks regulation of the wireless applications environment.^{4/} But Skype never explains how the public interest will be served if its objectives are achieved by regulatory

^{2/} See Skype Petition at 3.

^{3/} Lynn Stanton, *Device Makers' Silence On 'Carterfone' Issue Due to Fear, Says Wireless Neutrality Proponent*, TR Daily, Mar. 7, 2007, at 1 (“There is an impulse at the [FCC] to allow markets to self-correct . . . but we think there is an opportunity to do better. Skype's petition is about asking regulators to consider whether we can do better.”) (Christopher Libertelli, Skype's director of government and regulatory affairs).

^{4/} Marguerite Reardon, *Skype Petitions FCC for Open Cellular Access*, CNET News.com, Feb. 22, 2007 (“We want to allow our users to use the Skype software wherever they are And we want to make sure the policy is set in the right direction so that when Skype users want to use it on mobile devices, they'll be able to.”) (quoting Christopher Libertelli).

fiat rather than market forces, which already are driving toward the very outcomes Skype desires.^{5/}

As we demonstrate below, the proposition that regulators can “do better” than competitive marketplace forces is contrary to a basic tenet of U.S. communications policy. Decades of experience and several failed regulatory experiments have repeatedly confirmed that replacing robust marketplace forces with regulatory dictates would be far more likely to *harm* consumers than to help them. Skype’s hype is designed to support its own business model and serve its own needs. The public, in contrast, would be better served by prompt rejection of Skype’s petition.

ARGUMENT

I. **CARTERPHONE AND ITS PROGENY ARE UNNECESSARY AND ILL-SUITED FOR TODAY’S COMPETITIVE WIRELESS SERVICES AND EQUIPMENT MARKETS.**

A. **The Commission Rightly Determined That the Competitive Wireless Marketplace Calls for a Far Lighter Regulatory Hand than the Wireline Marketplace Did Nearly 40 Years Ago.**

As Skype rightly notes, *Carterfone* has been a major policy success.^{6/} In that landmark decision, the Commission introduced the “stimulus of competition”^{7/} to a monopoly equipment market in which the basic wireline telephone had remained unchanged for almost 30 years. By establishing in *Carterfone* a user’s right to attach his own equipment to the network and then

^{5/} See *infra* pp. 31-34.

^{6/} *Use of the Carterfone Device In Message Toll Telephone Service*, 13 F.C.C. 2d 420 (1968) (“*Carterfone*”); see Skype Petition at 11.

^{7/} Report and Order, *Implications of the Telephone Industry’s Primary Instrument Concept*, 68 F.C.C. 2d. 1157, 1175 ¶ 45 (1978).

requiring carriers in *Computer Inquiry II* to unbundle their CPE and service offerings, the Commission helped to spawn the competitive wireline CPE market we have today.^{8/}

More than a decade ago, however, the Commission determined that the same mandates need not and should not be applied to the wireless marketplace. The Commission concluded that the competitive circumstances and policy considerations in the wireless sector were very different from those that motivated *Carterfone* and *Computer Inquiry II*, and thus that a different approach was appropriate — a decision the Commission later reaffirmed even for the *wireline* market in 2001, in light of the procompetitive changes in that market as well.^{9/}

When *Carterfone* was adopted in 1968, wireline telecommunications was largely the domain of a single monopoly service provider that was vertically integrated with the monopoly equipment manufacturer: “AT&T [] consistently held to the position that it [wa]s entitled to a monopoly not only of the Nation's switching system and communications lines, but of all consumer equipment ‘attached’ to its system as well.”^{10/} AT&T’s bundling of equipment with its monopoly services blocked entry into the equipment market,^{11/} which in turn suppressed product innovation and price and quality improvements.

^{8/} Final Decision, *Amendment of Section 64.702 of the Commission’s Rules and Regulations*, 77 F.C.C. 2d 384, 439, 442-43 ¶¶ 140-41, 148-49 (1980) (“*Computer II Order*”); see Report and Order, *Policy and Rules Concerning the Interstate, Interexchange Marketplace*, 16 FCC Rcd 7418, 7422 ¶ 5 (2001) (“*Biennial Review Order*”).

^{9/} See *infra* pp. 9-10.

^{10/} Memorandum Opinion and Order, *AT&T ‘Foreign Attachment’ Tariff Revisions*, 15 F.C.C.2d 605, 614 (1968) (“*Foreign Attachment Tariff Revisions*”) (dissenting opinion of Commissioner Johnson). See also *Northeastern Tel. Co. v. American Tel. and Tel. Co.*, 477 F. Supp. 251, 253 (D. Conn. 1978); Proposed Rules, Federal Communications Commission, 47 C.F.R. Part 65 (“*Third Computer Inquiry*”) 50 Fed. Reg. 33,581, 33,582 n.1 (Aug. 20, 1985).

^{11/} *Computer II Order* at 442-43.

Carterfone broke this monopoly impasse in an “effort to open up competition in the communications business.”^{12/} The Commission implemented *Carterfone*’s “right to attach” by adopting detailed standards and procedures for attaching devices to the wireline network in Part 68 of its Rules.^{13/} This was accompanied by the *Computer Inquiry* unbundling mandate, which was designed to prevent AT&T from forcing customers “to purchase unwanted CPE in order to obtain necessary transmission services, thus restricting consumer choice and retarding the development of a competitive CPE market.”^{14/}

The Commission took a similar approach to the multichannel video programming distribution (“MVPD”) market. Like the 1968 wireline market, the MVPD market was marked by the absence of competition and the presence of an entrenched provider with significant control in the marketplace when the Commission adopted regulations designed to spur retail competition for cable set-top boxes in 1998.^{15/} At that time, the local incumbent cable operator dominated all aspects of the multichannel video programming services market in its region,^{16/}

^{12/} *Foreign Attachment Tariff Revisions*, 15 F.C.C.2d at 615 (dissenting opinion of Commissioner Johnson).

^{13/} 47 C.F.R. Part 68.

^{14/} *Biennial Review Order* at 7422 ¶ 5; see *Computer II Order* at 439, 442-43 ¶¶ 140-41, 148-49.

^{15/} See Report and Order, *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775 (1998); see also 47 U.S.C. § 549 (directing the Commission to assure the commercial availability of navigation devices used by consumers to access multichannel video programming services). Notably, these regulations will sunset when the markets for MVPD services and set-top boxes are fully competitive and elimination of the regulations is in the public interest. 47 U.S.C. § 549(e)(1)-(3).

^{16/} As of June 1998, more than 85 percent of all MVPD subscribers received video programming services from their local franchised cable operator. Fifth Annual Report, *Annual*

much as AT&T did in the 1968 wireline market. And, MVPD consumers typically had little choice but to lease the necessary set-top box from that operator, just as wireline consumers had little choice but to lease their wireline handsets from AT&T in 1968.^{17/} In other words, there was substantial evidence that operator practices were limiting and even actively suppressing consumer choice and competition in the set-top box market.

As the Commission recognized 15 years ago, however, conditions in the wireless marketplace do not present these same concerns. Although the Commission initially applied the *Computer Inquiry* unbundling requirement to cellular carriers in 1981,^{18/} it found in its 1992 *Cellular Bundling Order*^{19/} that its wireline CPE mandates were unnecessary in the wireless context. Neither the wireless services market nor the handset market resembled the wireline monopoly that *Carterfone* and the *Computer Inquiries* were designed to address. For example, the Commission found that the existence of *two* facilities-based service providers in each market, as contrasted with AT&T's 1968 wireline monopoly, gave consumers significantly greater protection against anticompetitive conduct.^{20/} In addition, the Commission specifically found that, by that time, the handset marketplace was "extremely competitive, both locally and

Assessment of the Status of Competition in Markets for the Delivery of Video Programming, 13 FCC Rcd 24284, 24363 ¶ 128 (1998).

^{17/} *Id.* at 24392-93 ¶ 201.

^{18/} Report and Order, *Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems*, 86 F.C.C. 2d 469, 497 ¶ 59 (1981) ("Cellular Report and Order").

^{19/} Report and Order, *Bundling of Cellular Customer Premises Equipment and Cellular Service*, 7 FCC Rcd 4028 (1992) ("Cellular Bundling Order").

^{20/} *Id.* at 4029 ¶ 11.

nationally,^{21/} as evidenced by the presence of between 17 and 25 manufacturers that were unaffiliated with the service providers. The agency also noted that average handset prices were dropping^{22/} and that handsets were available for purchase or rent through a variety of outlets.^{23/} This is in stark contrast to both the 1968 wireline and the 1998 MVPD markets, in which consumers were forced to lease the necessary equipment from their service provider, which had exclusive domain over the price and available technology.

In these competitive circumstances, the Commission decided that wireless service providers *should* be allowed to bundle handsets with services, subject to the condition that they also offer services separately at the same service price.^{24/} The Commission expected marketplace rivalry between even two carriers to prevent abuses because “a customer could always go elsewhere or to another carrier to get CPE”^{25/} if a carrier failed to respond to “customers['] demand[s] that they carry the widest variety of CPE possible.”^{26/} Further, any carrier that charged supracompetitive prices for bundled CPE would be undercut by unaffiliated retailers offering reasonably priced unbundled CPE.^{27/}

^{21/} *Cellular Bundling Order* at 4029 ¶ 9.

^{22/} Average prices dropped from \$2500 in 1984 to \$400 in 1992. *Id.* at 4029 ¶ 9.

^{23/} *Id.*

^{24/} *Id.* at 4032 ¶ 30.

^{25/} *Id.* at 4030 ¶ 18.

^{26/} *Id.* The Commission also found that individual carriers could not adversely impact the numerous CPE manufacturers operating on a national and international basis. “A CPE manufacturer foreclosed by one cellular service company . . . easily could sell its equipment to other cellular carriers” *Id.* at 4029-30 ¶ 13.

^{27/} *Id.* at 4029-30 ¶ 13.

The Commission concluded that any minimal, remaining risk was outweighed by the importance of promoting and deploying wireless services through bundling. It found that bundling CPE and wireless services would yield “significant public interest benefits,”^{28/} because spreading the high up-front cost of wireless handsets over the life of the service contract would serve as “an efficient promotional device which reduces barriers to new customers and . . . provides new customers with CPE and cellular service more economically than if it were prohibited.”^{29/} This, in turn, would “promote the effective use of spectrum” and spread “the fixed costs of providing cellular service . . . over a larger population of users, achieving economies of scale and lowering the cost of providing service to each subscriber.”^{30/} Consumer benefits would include not only convenience and mobility, but also public safety.^{31/}

As the Commission predicted, bundling also would bring faster technological change. Thus, for example, bundling accelerated the conversion to digital (which increased spectral efficiency and wireless call quality) by facilitating access to expensive digital handsets.^{32/} In stark contrast to the wireline market, where the Commission had found that separating service and CPE was necessary to further procompetitive policies, the Commission correctly found that *permitting* bundling in the 1992 wireless marketplace would “further[] the Commission’s goal of

^{28/} *Cellular Bundling Order* at 4030-31 ¶ 19.

^{29/} *Id.* at 4031 ¶ 20.

^{30/} *Id.*

^{31/} See Third Report and Order, *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 14 FCC Rcd 17388, 17389 ¶ 1 (1999) (“Wireless phones can be a vital, life-saving way to call for assistance in emergency situations. Indeed, the ability to reach 911 in an emergency is one of the most important reasons Americans give for purchasing wireless phones.”).

^{32/} *Cellular Bundling Order* at 4031 ¶ 20.

universal availability and affordability of cellular service and thus promote[] the continued growth of the cellular industry.”^{33/}

In short, the wireless marketplace was (and remains) completely different from the *Carterfone*-era wireline marketplace, and therefore dictates a much lighter regulatory touch. The Commission found that wireless consumers would benefit most from policies that would make it easier for them to afford to buy the service – especially given that the equipment market was doing quite well by 1992 without intervention. The Commission’s decisions allowed competition to flourish in both wireless services and handsets, resulting in a robust marketplace that continues to this day to have no need for *Carterfone*-type regulation.

B. The Wireless Marketplace Has Grown Exponentially More Competitive and Innovative Since the Commission’s Initial Bundling Decision, Making Regulatory Intervention Even More Inappropriate Today.

By 2001, the Commission found that there was no longer a need to apply the *Computer Inquiry* handset bundling ban even to the *wireline* marketplace. The Commission found that wireline CPE had become so competitive that “the risk of anticompetitive conduct that the Commission cited originally in enacting the bundling restrictions ha[d] been virtually eliminated.”^{34/} And, even though competition had “increased only a limited amount” in local wireline services, the Commission found that the consumer benefits of bundling outweighed any risk of harm. As it found, bundling actually *encourages* competition by “giving carriers flexibility both to differentiate themselves from their competitors and to target segments of the

^{33/} *Cellular Bundling Order* at 4031 ¶ 20.

^{34/} *Biennial Review Order*, 16 FCC Rcd at 7425 ¶ 11. “The bundling restrictions were adopted, in part, in recognition that competition was only beginning to emerge in the CPE market.” *Id.* at 7429-30 ¶ 21.

consumer market with product offerings designed to meet the needs of individual customers.”^{35/}

To be sure, the *Carterfone* right to attach remained intact, but by 2001 it was the competitive CPE market itself that the Commission cited as causing even dominant carriers to face “economic difficulty” in attempting “to link forcibly the purchase of one component to another.”^{36/}

The Commission’s reasoning in support of bundling for the 1992 wireless and 2001 wireline marketplaces is even more compelling in today’s wireless marketplace. In the past 15 years, the markets for wireless services and handsets have exploded. In contrast to the two wireless carriers per market that existed in 1992, today the majority of Americans live in counties served by *five or more* wireless carriers.^{37/} As Chairman Martin has noted, “[t]he wireless industry is the most competitive of all the sectors that [the Commission] regulate[s].”^{38/} Meanwhile, the ranks of handset manufacturers have swelled from approximately 20 in 1992 to

^{35/} *Biennial Review Order* at 7426 ¶ 14; *see also id.* at 7424 ¶ 10 (“[O]ffering consumers the choice of purchasing packages of products and services at a single low-rate will encourage them to subscribe to new, advanced, or specialized services by reducing the costs that they have to pay up-front to purchase equipment, or by giving them a choice of relying on one provider instead of having to assemble the desired combinations on their own. Price bundling also eliminates the transaction costs that carriers have to absorb in order to comply with the bundling rules, thereby enabling them to offer better prices whenever possible.”).

^{36/} *Id.* at 7425 ¶ 12.

^{37/} Eleventh Report, *Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, 21 FCC Rcd 10947, 10964 ¶ 41 (2006) (“*11th Annual CMRS Competition Report*”). Fifty-one percent of Americans live in counties served by five or more carriers, 94 percent live in counties served by four or more carriers, and 98 percent live in counties served by three or more carriers. *Id.*

^{38/} Stephen Lawson, *FCC Chief: Wireless Key to Universal Service Access*, InfoWorld, Mar. 27, 2007, available at http://www.infoworld.com/article/07/03/27/HNfccchief_1.html

approximately 40 or more today.^{39/} Average wireless handset prices have spiraled downward, while handsets have simultaneously shrunk in size and blossomed in functionality.^{40/} And, handsets are available for purchase from a growing variety of non-carrier sources.^{41/} In short, even more than in 1992, consumers today “have the ability to choose their own CPE and service packages and [] they [are] not [] forced to buy unwanted carrier-supplied CPE in order to obtain transmission service.”^{42/} Specifically:

- **Wireless users can choose among many carriers.** Skype suggests that the wireless market today is “oligopolistic” and suffers from “a smaller number of carriers.”^{43/} But almost every market has at least twice as many carriers as it did in 1992, when the Commission adopted the *Cellular Unbundling Order*. National carriers compete vigorously against each other in almost every major market across the country. Moreover, there are a multitude of U.S. carriers beyond the four national operators, a fact that Skype simply ignores.^{44/} The resale market is thriving, too, with 7% of wireless subscribers receiving service from roughly two dozen MVNOs.^{45/}

^{39/} See *infra* n.57.

^{40/} The average price of wireless handsets dropped from \$400 in 1992 to \$102 in 2006, a decrease between 1992 and 2006 of nearly 75 percent. See *Cellular Bundling Order* at 4029 ¶ 9 (average cell phone price in 1992 was \$400); <http://www.cellular-news.com/story/20489.php>, posted Nov. 20, 2006 (average cell phone price in first half of 2006 was \$102).

^{41/} Consumers may buy handsets directly from the manufacturers, online or through retail stores, see, e.g., <http://www.nokiausa.com/about/store>; from general electronics stores; from online retailers (such as Amazon.com and Wirefly.com); or from online auction sites, such as Skype’s parent company, eBay. There is also a healthy online marketplace for refurbished phones, see, e.g., <http://www.recellular.net/home/home.asp>.

^{42/} *Cellular Bundling Order* at 4032 ¶ 29.

^{43/} Skype Petition at 21.

^{44/} Approximately 180 facilities-based wireless carriers exist in the United States today, see CTIA Wireless Quick Facts, Dec. 2006, available at <http://www.ctia.org/advocacy/research/index.cfm/AID/10323>, including super-regional carrier Alltel (12 million customers in 35 states), see Alltel Fact Sheet, available at <http://www.alltel.com/corporate/media/factsheet.html>; regional carriers such as U.S. Cellular (5.8 million customers in 26 states), see About U.S. Cellular, available at http://www.uscc.com/usccellular/SilverStream/Pages/x_page.html?p=a_home; Leap Wireless (2.2 million customers in 22 states), see Leap Press Release (Feb. 27, 2007), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=191722&p=irol->

- **New developments promise even more competition.** In the recent AWS auction, T-Mobile, the smallest of the national carriers, acquired a true nationwide spectrum footprint for the first time; regional players like Leap and Metro PCS acquired spectrum in many markets outside their current footprints; and new major players, such as a consortium of cable operators, acquired significant spectrum positions. All these developments set the stage for even more intense competition from both existing carriers and new entrants in wireless markets around the country. The upcoming 700 MHz auction is likely to generate still further service competition.

This high level of service competition causes carriers to compete vigorously not only on bottom-line price, but also on call quality, innovative pricing plans, and targeted handset and service offerings, as each tries to offer the next “new thing.” Indeed, the “maverick” behavior that Skype claims is missing from the wireless marketplace^{46/} is readily apparent in the differentiated service plans being introduced almost daily.

- **Wireless carriers offer differentiated pricing plans, with innovations from “maverick” carriers often catching on industry-wide.** Consumers select from a smorgasbord of pricing plans, including voice (local and national), data, and 3G plans, which vary in functionality, terms, and price points.^{47/} Carriers with smaller market shares continue to be price innovators,^{48/} and even the largest carriers must

newsArticle&ID=968139&highlight=; and MetroPCS (3 million customers in 5 states), *see* About MetroPCS, *available at* <http://www.metropcs.com/about/aboutmetropcs.php>; and numerous local carriers.

^{45/} *Local Telephone Competition: Status as of June 30, 2006*, at 3 (Jan. 2007), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270133A1.pdf.

^{46/} Skype Petition at 25.

^{47/} Price points vary widely, with monthly rates of \$29.99 to \$199.99 for voice service, \$9.99 to \$169.99 for data service, \$29.99 to \$169.99 for Blackberry service, and \$15.00 and up for 3G service. Mobile data pricing is “characterized by considerable complexity due to the diversity of pricing options.” *11th Annual CMRS Competition Report* at 10986 ¶ 95. And carriers increasingly offer prepaid plans as an alternative to the postpaid subscription plans traditionally most popular in the United States.

^{48/} For example, “mobile to anyone” calling options were originally introduced by regional operators in early 2006; by late 2006, T-Mobile introduced “myFaves,” which gives subscribers unlimited calling minutes to any five numbers on any network, including landlines. *See* <http://gizmodo.com/gadgets/announcements/tmobile-myfaves-launches-204458.php>.

offer innovative plans.^{49/} As the Commission has noted, this “continued rollout of differentiated pricing plans . . . indicates a competitive marketplace.”^{50/}

- **Wireless consumers enjoy continued steady improvements in call quality.** Competitive pressures have driven reported wireless call problems to historically low levels.^{51/} This improvement has been driven by competitive pressures to increase infrastructure investment: “With an increasingly competitive environment and an increase in the number of services used in conjunction with a cell phone, carriers that offer superior network quality are more likely to attract new customers and increase customer retention.”^{52/}
- **Fierce price competition has driven wireless carriers’ average revenue per minute down by 27% between 2004 and 2005, to only 7 cents.**^{53/} The decline in wireless carrier revenue represents a nearly four-fold decrease since 1994, when the Commission detariffed wireless services.^{54/}
- **Wireless carriers compete to offer differentiated niche services to particular consumer groups.** Carriers have developed tailored service and handset offerings to

^{49/} AT&T’s Digital One Rate plan — offering customers national rate pricing on buckets of minutes, which could be used without incurring long-distance or roaming charges — is an example of innovative pricing that changed the marketplace to the benefit of consumers. Such plans are now commonplace in the industry, making wireless long distance and roaming charges largely a thing of the past. Similarly, all national carriers now offer some version of the popular “family plan,” which allows subscribers to share available minutes across multiple lines, with reduced per-line prices. *11th Annual CMRS Competition Report* at 10983-84 ¶¶ 90-91. Other large carrier pricing innovations include an AT&T plan that allows subscribers to roll unused minutes over to the following month; Sprint Nextel’s “fair and flexible plan” that adjusts to the subscriber’s monthly usage, and its “unlimited plans” that offer free incoming minutes.

^{50/} *11th Annual CMRS Competition Report* at 10983 ¶ 90.

^{51/} See *Wireless Call Quality Problems Continue to Decline as the Transition to 3G Networks Takes Hold*, J.D. Power and Associates Reports, available at <http://www.jdpower.com/corporate/news/releases/pressrelease.asp?ID=2007040> (reporting that overall call problem incident rates declined for the third consecutive reporting period)

^{52/} *Id.* (quoting Kirk Parsons, senior director of wireless services at J.D. Power and Associates).

^{53/} *11th Annual CMRS Competition Report* at 11008 ¶ 154.

^{54/} *Id.*; see Second Report and Order, *Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services*, 9 FCC Rcd 1411, 1463-93 ¶¶ 124-219 (1994).

meet the needs of particular demographic groups. For example, T-Mobile offers a kidConnect service aimed at children and the Sidekick aimed at heavy messaging users.^{55/}

The robust wireless service market has driven rapid innovation in the handset marketplace. While Skype suggests that cellular bundling practices have created an “unusual and distorted” handset market,^{56/} the truth is that an extremely diverse marketplace has developed and flourished. The number of handset manufacturers that compete in the U.S. market has approximately *doubled* since 1992. And, in contrast to the era of *Carterphone* at AT&T, handset manufacturers are independent of wireless carriers. Thus, carriers seeking to attract consumers are constantly looking for handsets with new capabilities to capture consumer interest.

- **Intense competition among approximately 40 different manufacturers has yielded hundreds of handset models featuring a mind-boggling array of capabilities.**^{57/} Common features today include Web browsers, instant messaging

^{55/} See *Danger Powers New T-Mobile Sidekick*, WirelessEurope’s Daily Bulletin, Apr. 26, 2007 (calling T-Mobile Sidekick iD “an obvious choice for Internet savvy, mobile messaging fanatics . . .”); “Introducing kidConnect,” available at http://www.t-mobile.com/promotions/kidconnect.aspx?WT.srch=2&Result_Inq=answer&InqSource=TMO (offering flat-rate plan with unlimited calling between child’s phone and parents’ phones plus 50 *Whenever* minutes for voice, text, or picture messages). Other examples abound. Helio and Amp’d are MVNOs that pair high speed mobile data services with advanced 3G handsets to serve young, tech-savvy customers seeking games, video clips, and other premium data and video services. See <http://get.ampd.com/>; <http://www.helio.com/>. Firefly Mobile markets a phone designed specifically for children paired with services that allow parents to control incoming and outgoing calls. See <http://www.fireflymobile.com/phone/>. And, Jitterbug Wireless caters to the other end of the age spectrum, offering a wireless service for senior citizens with handsets featuring oversized keypads and displays and a dial tone whenever the handset is opened. See <http://www.jitterbug.com/Easy-Cell-Phones/easy-to-use-mobile.html>.

^{56/} Skype Petition at 13.

^{57/} See, e.g., <http://t-mobile.com/shop/phones> (offering handsets from RIM, Motorola, Nokia, Samsung, Sony Ericsson, T-Mobile); <http://www.cingular.com/cell-phone-service/cell-phones/index.jsp> (offering handsets from, among others, Cingular, Firefly, HP, LG, Palm, Pantech); <http://sprint.com/index.html> (offering handsets from, among others, Sanyo); <http://www.verizonwireless.com/b2c/index.html> (offering handsets from, among others,

and e-mail, cameras and video recorders, Bluetooth, digital music players, and 3G options, such as streaming video and videoconferencing.^{58/} As a result, there are multiple handset options for every type of consumer, including basic users, children, business users, fashion-conscious consumers, and tech-savvy users.^{59/}

Kyocera); Press Release, "LeapFrog and Enfora Make Connection with First Educational Cell Phone For Kids," Aug. 9, 2005 (discussing features of Enfora's TicTalk handset); http://reviews.cnet.com/4520-6602_7-5020355-1.html (reviewing handsets from, among others, Apple, Audiovox, Carrier Devices Ltd., Nextel, Sharp Electronics, Siemens, Sierra Wireless, Wherify Wireless); Sascha Sega, *Hot Phones From Firms You Don't Know*, PC Magazine, Mar. 2005, available at http://findarticles.com/p/articles/mi_zdpcm/is_200503/ai_n12934024 (discussing handsets designed for the U.S. market by GSPDA, Haier, Hop-On, Newgen); *HTC Eyes 43% Sales Jump*, Aug. 29, 2006, available at <http://www.emsnow.com/newsarchives/archivedetails.cfm?ID=13933> (quoting HTC president regarding growth potential in U.S. handset market); Press Release, "ModeLabs Group Taps Into U.S. Market with New Subsidiary," Dec. 21, 2006, available at <http://www.tmcnet.com/usubmit/2006/12/21/2189973.htm>; *Casio Mobile Phones Hit North American Market*, Oct. 23, 2006, available at http://world.casio.com/corporate/news/2006/gzone_type_v.html (discussing introduction of Casio handsets to the U.S.); Press Release, "Benefon Appoints New Staff to Drive Mobile Expansion," Jan. 11, 2007, available at http://www.webitpr.com/release_detail.asp?ReleaseID=5027 (noting appointment of new North American sales manager to bolster Benefon's U.S. presence); Kevin Fitchard, *Alcatel-Branded Handsets to Debut at CTIA*, Mar. 7, 2007 (discussing new handsets by Chinese manufacturers TCL, Huawei, and ZTE for U.S. market); Jorgen Sundgot, *Helio Kickflip, Hero Handsets to Spearhead Operator Launch*, Feb. 16, 2006 (discussing handsets manufactured for Helio by VK Mobile and Pantech); *Customized Design Manufacturers Are Here*, Vision Mobile, Sept. 21, 2006, available at <http://visionmobile.com/blog/?p=44> (discussing increasing role of Customized Design Manufacturers to produce handsets for niche consumer segments); *Amoi V870 CDMA 1X EVDO/GSM Digital Mobile Phone*, Apr. 27, 2007, <http://www.mobilewhack.com/amoi-v870-cdma-1x-evdogsm-digital-mobile-phone/> (noting FCC approval of Amoi's CDMA and GSM compatible handset).

^{58/} See Melissa Dahl, *Back in the Day it was a Luxury; Now the Cell Phone is a Staple of Life*, Sacramento Bee, Apr. 14, 2007 (discussing current handset features, enabling mobile phones to function as "a camera. A calendar. A calculator. An alarm clock. A timepiece. A Web browser. An MP3 player. And ... a Breathalyzer? (Seriously — the LG LP4100. Google it.)").

^{59/} Professor Wu's assertion that "the cellular phones widely available in the United States are just a small fraction of the phones available in the world" is misleading and irrelevant. See Tim Wu, *Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband*, New America Foundation, Wireless Future Program, Working Paper No. 17, at 7 (Feb. 2007) ("*Wu Working Paper*"). Manufacturers design handsets to suit local consumer tastes and modes of use: For example, European users tend to prefer slide handsets, while many U.S. users prefer flip phones. Additionally, local regulations may require different handsets for different markets. See, e.g., *Cell Phone Radiation Levels*, CNET Reviews, Jan. 31, 2007 (noting that U.S. regulations require lower handset radiation emission than European regulations). And

- **Low barriers to entry enable newcomers to compete effectively with established manufacturers.** For instance, LG Electronics entered the U.S. market in 1998 and quickly established itself as a major player in the handset market.^{60/} RIM's BlackBerry likewise established itself as a market staple within just a few years of its introduction.^{61/} Other manufacturers are entering the U.S. market, including Chinese makers.^{62/}
- **The U.S. handset market sold a record 143 million units worth \$8.8 billion dollars in 2006.**^{63/} These strong sales are attributable in part to the bundling of wireless handsets and services: "A continual flow of new devices with data-capable features, combined with carrier promotions and rebates, have served to broaden the market of consumers who purchase new phones and wireless plans."^{64/}
- **Market forces require wireless carriers to support handsets and new handset functionality that consumers want.** When consumers demand new handset capabilities, market forces require that manufacturers and carriers listen.^{65/} As a result, many handset models today offer Bluetooth and/or Wi-Fi capability, and all major carriers support this functionality.^{66/}

in some cases, U.S. consumers enjoy first introduction of new phone models that only subsequently spread to the rest of the world. *See, e.g., Bits and Bytes: Apple Leaps Into Action*, Cairns Post, Apr. 24, 2007 (noting the Apple iPhone will be introduced to the U.S. market in June 2007, to Canada and Europe in late 2007, and to Australia and Asia in 2008).

^{60/} LG secured the number four spot in the U.S. market for GSM handsets just two years after launching its first GSM handset. *See LG Becomes Second Largest Cell Phone Manufacturer in U.S.*, Dec. 15, 2005, available at <http://www.mobiledia.com/news/41416.html>.

^{61/} *See* Gregory A. Quirk, *Inside the RIM Blackberry 8700c: The Latest Blackberry Shows How the Technology Has Evolved, and It Certainly Has Come a Long Way*, techonline (Aug. 14, 2006), available at <http://www.techonline.com/product/underthehood/193400038>.

^{62/} *See, e.g.,* Sascha Segan, *Haier's Bit of Phone Elegance*, PC Magazine, Jan. 9, 2007 (discussing Chinese conglomerate Haier's plans to enter U.S. mobile handset market).

^{63/} Wolfgang Gruener, *U.S. Mobile Phone Sales Top 143 Million Units in 2006*, (Mar. 27, 2007) available at <http://www.tgdaily.com/content/view/31373/118/>.

^{64/} *Id.* (quoting Ross Rubin, director of industry analysis for The NPD Group).

^{65/} As noted above, consumer demand has driven the introduction of new handsets that support niche services, such as those marketed for children, seniors, and GenY users.

^{66/} *See* Skype Petition at 14. Of the 37 handsets offered on T-Mobile's website, 29 have Bluetooth capability, and 2 are Wi-Fi enabled. *See* <http://www.t-mobile.com/shop/phones/>.

Fierce carrier competition has led also to the deployment of advanced 3G broadband networks; U.S. consumers already enjoy a growing selection of 3G handsets.

- **At least 99% of the U.S. population lives in counties with some form of 3G network deployment.**^{67/} All four national carriers have deployed or are deploying 3G infrastructure. T-Mobile is deploying a 3G network based on UMTS/HSDPA technology using the spectrum it acquired in the AWS auction last year. Higher speed 3G technologies (EVDO Rev. A and HSDPA), which give consumers DSL-like broadband experiences, are now available in counties containing 63% and 20% of the U.S. population, respectively.^{68/} In fact, wireless is now the fastest growing segment of the U.S. broadband market.^{69/}
- **Nearly 10% of U.S. subscribers owned a 3G handset by the end of 2006.**^{70/} In addition to 3G handsets, U.S. consumers may buy wireless cards for their personal computers, making it possible to use a broad range of PC devices and the applications that run on them on wireless broadband networks.

Finally, the rapid growth of U.S. wireless subscribership and minutes of use contradicts Skype's suggestion that wireless consumers are somehow ill-served by the wireless marketplace.

- **Wireless subscribership has increased more than twenty-fold since the Commission's *Cellular Bundling Order*, from only 11 million in 1992 to an estimated 233 million today.**^{71/} The current U.S. wireless penetration rate is

^{67/} 11th Annual CMRS Competition Report at 10995 ¶ 117.

^{68/} *Id.*

^{69/} Almost 60 percent of all new high-speed lines reported in the first half of 2006 were mobile broadband wireless lines, outstripping additions by cable companies and traditional telcos combined. *High Speed Services for Internet Access: Status as of June 30, 2006*, Industry Analysis and Technology Division, Wireline Competition Bureau (rel. Jan. 31, 2007), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf, at Table 1.

^{70/} Press Release, "3G Does Matter: M:Metrics Finds Higher Speed Mobile Networks Drive Content Consumption," m:metrics, Feb. 14, 2007, available at <http://www.mmetrics.com/press/PressRelease.aspx?article=20070214-3g-consumption>

^{71/} CTIA Wireless Quick Facts, Dec. 2006, available at http://www.ctia.org/media/industry_info/index.cfm/AID/10323.

estimated to be 75% to 77%^{72/} and increasing rapidly due to the 15% U.S. subscriber growth rate.^{73/}

- **U.S. mobile voice usage continues to soar.** Average monthly minutes of use rose twenty-fold from 1999 to 2006,^{74/} as the majority of Americans use their wireless handsets as their primary phone.^{75/} Indeed, wireless consumers are increasingly foregoing wireline service, relying solely on wireless service for their voice telephony needs.^{76/}

In short, the “problem” Skype alludes to and proposes to fix does not exist. The U.S. wireless services marketplace is extraordinarily competitive, the handset market is robust, and today’s wireless consumers are in the driver’s seat with respect to the services they buy, the functionalities of their equipment, and the applications they run. Even more than in the 1992 wireless and 2001 wireline contexts, regulatory intervention designed to foster handset competition and consumer choice is patently unnecessary and would likely harm consumers.

^{72/} See <http://www.cellular-news.com/story/18056.php>; see also U.S. Census Bureau Extended Measures of Well-Being: Living Conditions in the United States, 2003 (Apr. 2007), at 2, available at <http://www.census.gov/prod/2007pubs/p70-110.pdf> (reporting that U.S. households with a cellular telephone increased from 36.3 percent in 1998 to 62.8 percent in 2003).

^{73/} *11th Annual CMRS Competition Report* at 11010 ¶ 158 (based on subscriber growth rate between 2004 and 2005).

^{74/} *Id.* at 11021-22 ¶ 192; see also Morgan Stanley, *Telecom Services – 4Q06 Trend Tracker: Shelter From the Storm* at 50 (Mar. 22, 2007) (reporting that average minutes of use at the four national wireless carriers increased twenty-fold between 1999 and 2006).

^{75/} *11th Annual CMRS Competition Report* at 11027 ¶ 205, n.564 (As of early 2006, “[o]nly 43 percent [of Americans] still used their landline phones as the primary phone.”).

^{76/} *Id.* (citing estimates that 12 percent of cellphone users use cellphones as their only phone).

C. Carterfone-Type Rules Are Incompatible With the Unique Nature of Wireless Networks and Rapidly Changing Wireless Technologies.

The rules for the wireline marketplace are not only unnecessary here. They also cannot (and should not) be imposed on the wireless marketplace because the two are technologically different in three important ways. First, wireless spectrum is a shared and scarce resource, unlike the dedicated capacity deployed in a wireline network. One person's use of a wireless network may significantly affect that of others, which is not the case for wireline networks. Second, wireless network technologies are evolving at an extraordinary pace, making it more harmful and more difficult (if not impossible) to freeze design standards or interfaces by regulatory fiat. Third, wireless service features are often specifically dependent on particular handset capabilities. Regulatory "open access" requirements that would sever or seek to standardize these relationships would undermine valuable public interest benefits that consumers enjoy today.

The FCC expressly qualified the consumer right to attach equipment to the network in *Carterfone* by an obligation not to harm the network or other users.^{27/} Whereas attaching a device to the wireline network has little impact on the network or its use by others,^{28/} the shared

^{27/} *Carterfone*, 13 F.C.C. 2d at 424 (striking down prohibitions of only "nonharmful interconnection," and clarifying that "[w]e are not holding that the telephone companies may not prevent the use of devices which actually cause harm, or that they may not set up reasonable standards to be met by interconnection devices").

^{28/} Because the circuit-switched telephone network creates a dedicated "circuit" between callers, a call placed over this network uses few shared facilities other than the switch, putting little pressure on the transmission facilities that serve other users. Indeed, new switching capabilities in recent years have made switching capacity virtually inexhaustible as a practical matter. See, e.g., Memorandum Opinion and Order, *Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration*, 17 FCC Red 27039 (2002) ("*Verizon Virginia Arbitration Order*"). The bandwidth of a traditional wired local loop is fixed, so a customer uses the same

nature of the scarce wireless spectrum substantially raises the stakes for harm resulting from network attachments. Because no bandwidth is dedicated to any individual subscriber on a wireless network,^{79/} the use of any attached device draws on the network's finite shared transmission capacity, which in turn has necessary implications for other users' experience. For instance, a call may be dropped during a handoff between network cells if the new cell site is at capacity and cannot accept the additional call trying to "hand in." Wireless operators therefore must intensively manage their network resources to ensure high quality of service.

Notably, even though cable utilizes a shared network technology as well, the right to attach set-top boxes does not present the same potential risks to network resource management. Cable television set-top boxes are largely passive users of bandwidth, serving primarily to descramble signals the cable network centrally provides. In further contrast to mobile handsets, set-top boxes are geographically fixed devices. Accordingly, the risk of increased bandwidth drain or disruption for other users when a standard set-top box is replaced with another model is far less than in a wireless environment. On the wireless network, handsets use bandwidth far more actively and unpredictably.

dedicated capacity no matter what device he attaches. Thus, a customer's attachment of a device to his loop has little effect on the availability of the wireline network to other users or their quality of service. By contrast, *Carterfone* has never been applied to shared lines, precisely because their use does affect others. Second Notice of Proposed Rulemaking and Order, *Petitions Seeking Amendment of Part 68 of the Commission's Rules Concerning Connection of Telephone Equipment, Systems, and Protective Apparatus to the Telephone Network*, 92 F.C.C. 2d 1, 32-39 ¶¶ 84-102 (1982).

^{79/} "Bandwidth is the one thing [carriers] are short of, and if a third party comes along and hogs all the bandwidth, they have a right to get upset." Peter Purton, *Mobile Carriers Gird to Battle VOIP*, Red Herring, Mar. 6, 2007, available at <http://www.allot.com/pr/UK/Red%20Herring%20-%20Mobile%20operator%20VoIP%20-%207%20Mar07.pdf> (quoting Peter Dykes, analyst at Informa Telecoms and Media in the United Kingdom).

Wireless carriers have been able to manage this unpredictability and risk, and in fact improve quality of service and customer satisfaction, by distributing and promoting spectrally efficient equipment. Operators are raising call quality by deploying advanced 2G and new 3G networks with increased capacity and by promoting the use of compatible handsets that can operate on those networks.^{80/}

The need to manage network resources does not mean that wireless operators preclude liberal choice of handsets by consumers. Rather, as explained below, T-Mobile has flexible handset policies. But, it would be counterproductive to try to achieve the same result through a regulatory mandate. Such a mandate would be inherently inflexible and at risk of quickly growing outdated, leaving carriers without the ability they need to respond to unforeseeable developments that may affect network capacity and create quality of service problems as such developments arise, or to design or promote specific solutions or offerings that best preserve network resources and consumers' ability to use the network.

The same concerns are present with respect to the applications end users run on a wireless network. Wireless applications can significantly affect network capacity and quality of service for all users. Because a wireline telephone loop has a fixed bandwidth, a customer uses the same capacity no matter what application he uses. By contrast, wireless applications consume widely varying amounts of network capacity.^{81/} SMS text messages use the least

^{80/} See *Call Quality Complaints Hit All-Time Low*, cellular-news, Mar. 16, 2007, available at <http://www.cellular-news.com/story/22618.php> (noting that 3G handsets experience far greater call quality than lower-generation devices) (quoting Kirk Parsons, senior director of wireless services at J.D. Powers and Associates).

^{81/} The manner in which network capacity is consumed also varies by application. For example, streaming video requires finite bursts of network usage, while other applications may tie up a channel for hours. See *Tight Squeeze for Mobile TV*, CNET News.com, Jun. 13, 2006, available at http://news.com.com/2102-1039_3-5886537.html?tag+st.util.print.

bandwidth, followed by voice calls; many data applications, such as downloading ring tones or sending photos, use far more bandwidth. Streaming video consumes still more – approximately 10 times that consumed by voice traffic.^{82/} Peer-to-peer applications, such as Slingbox or BitTorrent, can consume exponentially more bandwidth than any of the applications discussed above. As a result, users running these applications can seriously harm the quality of service enjoyed by others, even bringing down a wireless broadband network.^{83/} Increasing threats raised by malware also require network operators to manage devices and applications run on their networks to protect network integrity and service quality for all end users.^{84/} Again,

^{82/} Marguerite Reardon, *RIM Chief Cautious About Unlimited Wireless Data Plans*, CNET News.com, Jun. 5, 2006, available at http://news.com.com/RIM+chief+cautious+about+unlimited+wireless+data+plans/2100-1039_3-6079983.html. The following example illustrates the impact that applications may have on a shared wireless network: “[A]n average voice plan that includes 500 minutes of airtime uses about 45MB of capacity per user per month By contrast, a user with an unlimited data plan who watches 15 minutes of video per day, reads at least three articles from a mobile Web site such as CNN.com, and checks e-mail using his company’s [VPN] uses approximately 1.6GB worth of capacity per month. Translated into voice minutes, this amount of data usage would require roughly 20,000 minutes per month.” *Id.*

^{83/} “A few Slingboxes, used to tap into one’s home television programming over the Internet when away from home, could ‘take down’ local service if connected to a wireless network.” Telecommunications Reports, *Telcos Target TV Options Amid Rapidly Evolving Video Delivery Landscape*, Jan. 15, 2007. Google has recognized the potentially ruinous impact bandwidth-hogging applications can have in a shared network environment: “‘We’re in Washington, in congressmen’s offices and in the office of the [FCC] chairman, saying ‘We need net neutrality. We can’t have . . . service providers saying what can and can’t run on the network.’ . . . At the same time, we’re building an ISP and we’re confronting the reality of, ‘Oh, man, people are going to run BitTorrent on this thing, aren’t they?’” Stephen Lawson, *Google Eyes How Mobile Devices Will Use City Wi-Fi*, InfoWorld, Jan. 27, 2006 (quoting Christopher Sacca, principal in new business development for Google).

^{84/} More than 400 mobile viruses have been discovered in the past two years. *See Increasingly Vital Wireless Devices are Vulnerable to Attack, Security Pros Say* Comm. Daily, Mar. 22, 2007; *see also New Security Holes Found in Cellphones, Routers*, Wireless Week, Apr. 5, 2007, available at <http://www.wirelessweek.com/article/CA6431126.html> (new vulnerabilities could be used to run unauthorized software on a device or steal sensitive information from mobile phones). These developments have spurred reasonable concern that “a security breach will happen in the network and spread, taking service quality down with it. If a carrier

T-Mobile's current practices generally do not preclude customers from running specific applications. But, as discussed below, T-Mobile necessarily retains the right to limit use of applications that adversely affect service quality and network capacity. Fixed rules — even those that seek to carve out a carrier right to protect its network — would likely make carriers' exercise of that right more cumbersome and risky. Moreover, carriers, not regulators, are the best judges of what is harmful to their own particular networks. For instance, an application that might cripple a particular carrier's network-based E911 technology might not cause a problem for another carrier's handset-based E911 solution. In addition, concerns about network abuse and spectrum hogging would inevitably be even more prevalent if, as Skype seeks, carriers were compelled to support any and all applications regardless of consumer use or demand. Finally, such a rule might also require carriers to set aside bandwidth inefficiently just in case consumers choose to use bandwidth-heavy applications, essentially putting a wasteful "hold" on scarce resources.

The second major distinction between wireless and wireline technologies lies in their pace of change. The technology of the traditional local loop has been largely static for decades both before and after *Carterfone*; wireline handsets, too, have remained largely unchanged. But wireless technology has been in constant flux from its inception. There is no single network technology: The Commission decided at the birth of digital wireless telephony not to mandate a single wireless technology, but instead to allow rival approaches to compete in the marketplace.^{85/} As a result, four digital technologies were initially deployed and two major

experienced a severe outage or attack, for example, it would be difficult to recover and regain consumer confidence." *Batten Down the Hatches*, *Wireless Week*, Mar. 1, 2007, at 22.

^{85/} See, e.g., *11th Annual CMRS Competition Report* at 10989-90 ¶¶ 102-03 (describing the pro-competitive advantages of the Commission's market-based approach of allowing carriers to

competing digital standards, GSM and CDMA, currently prevail, both of which have experienced waves of generational improvements. Each generation of wireless technology may be used for only a few years before being replaced by the next; and, each typically requires a parallel evolution in both handsets and the interaction between the network and handsets.

In these circumstances, any effort to prescribe handset “standards” to which all manufacturers must build and that all carriers must support would be doomed to failure. Regulators would likely find it impossible to “get in front of th[e] trend,” as Skype urges,^{86/} when the streams of technological change are as multiple and as fast-moving as those in wireless technology today.^{87/} If the Commission were able to formulate a Part 68 for wireless devices, it would serve only to freeze technology in place — at the same time that consumer demand and technological changes would be pushing for the abandonment of yesterday’s handsets and network features. By contrast, left to themselves, carriers and manufacturers have worked together to keep up the pace of innovation and associated consumer benefit.

The third major distinction — the interdependence of network and handset functionalities — exacerbates the risks and disadvantages of regulatory intervention. T-Mobile’s specialized

choose wireless network technology, including greater product variety, greater differentiation of services, and decreased potential for anticompetitive pricing behavior).

^{86/} “What we’re trying to do is get in front of that trend [3G] so that policy is set in the correct way.” Stephen Lawson, *Skype Asks FCC to Force Open Mobile Networks*, PC World, Feb. 24, 2007, available at http://groups.google.com/group/comp.dcom.telecom/browse_thread/thread/15f70ad57f1274.

^{87/} Skype itself has experienced the perils of regulatory attempts to direct the flow of technological change. It has criticized a Canadian regulatory prescription for VoIP on the ground that “The CRTC came up with a decision that didn’t fully appreciate how quickly the market is moving.” Saleem Khan, *Voice over IP: Cheap Skype Service Sign of Things to Come*, CBC News, Dec. 15, 2006, available at <http://www.cbc.ca/news/background/tech/skype.html> (quoting Don Albert, General Manager, Skype North America).

myFaves offering allows users to identify five phone numbers for unlimited calling and permits the use of various applications with respect to those individuals. This T-Mobile offering integrates both network and handset capabilities, and it has proved very attractive to customers who call specific circles of friends frequently. Similarly, the Firefly service discussed above meets a specific consumer demand for parent-managed children's mobile service by pairing tailored *network* services (such as allowing parents to program the phone numbers the handset can call and receive) with unique *handset* features (such as limited buttons and other child-friendly design features). Other specialized service/handset combinations target seniors or tech-savvy GenY users.^{88/} The traditional wireline network never showed this interdependence between network innovation and handset design. Likewise, as noted above, cable set-top boxes have been largely passive devices, with only limited capabilities and two-way applications that must be coordinated with the network. Dictating that every wireless service must support every handset, on the other hand, would strip from consumers many current benefits and innumerable future innovations the competitive marketplace would otherwise offer.

In sum, *Carterfone*-style regulation in these circumstances would slow innovation, reduce quality of service, and obstruct targeted, consumer-focused offerings. The characteristics of today's wireless marketplace could not be more different from the stagnant wireline monopoly in which the Commission intervened 40 years ago to open the floodgates of change in wired CPE. Consumers have benefited from the Commission's wise decision to get out of the way of progress in wireless technology, where the floodgates of change are already open.

^{88/} See, e.g., *Branded Phones With Bonus Content and Plenty of Extras Are Going After Gen Y*, trendcentral.com, May 16, 2006, available at <http://www.trendcentral.com/trends/trendarticle.asp?tcArticleId=1587>.

D. Skype's Plea for Intervention Contradicts the Deregulatory Thrust of the Communications Act and the Commission's Wireless Policies.

As noted above, Skype asserts that regulators should see if they can “do [even] better” than the competitive marketplace that Skype acknowledges is “an unquestioned success.”^{89/} But, Congress and the Commission have consistently adopted the opposite approach — a “deeply rooted preference for competitive processes,”^{90/} which reserves regulatory intervention for instances in which the competitive marketplace is demonstrably failing to serve the public interest. Where competition is feasible, “the collective judgments of competing firms and millions of self-interested consumers”^{91/} are likely to yield better results than the slow and blunt instrument of regulation. The Commission should decline Skype's invitation to abandon this core principle of U.S. telecommunications policy.

“Congress established a clear national policy that competition leading to deregulation . . . shall be the preferred means for protecting consumers.”^{92/} Through the 1996 Act, Congress sought to foster “a minimal regulatory environment that promotes investment and innovation in a competitive market.”^{93/} To implement this “vision of a telecommunications marketplace where

^{89/} Skype Petition at 3.

^{90/} Hearing Designation Order, *Application of Echostar Communications Corp.*, 17 FCC Rcd 20559, 20586 ¶ 56 (2002).

^{91/} Jonathan E. Nuechterlein & Philip J. Weiser, *Digital Crossroads: American Telecommunications Policy in the Internet Age* 429 (2005).

^{92/} Memorandum Opinion and Order, *Applications for Consent to the Transfer of Control of License and Section 214 Authorizations by Time Warner Inc. and America Online*, 16 FCC Rcd 6547, 6611 ¶ 150 n.408 (2001), citing Joint Statement of Managers, S. Conf. Rep. No. 104-230 at 1 (1996).

^{93/} *NCTA v. Brand X Internet Servs.*, 545 U.S. 967, 972 (2005), citing *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 845 (1984). See also *SBC Communications*,

the flexibility and innovation of competition replaces the heavy hand of regulation,”^{94/} the Commission has repeatedly sought to *remove* – not impose – unnecessary regulations. It has particularly sought to relieve competitive markets of regulations that were “written to apply specifically to cases involving a monopoly service provider using its bottleneck facilities to provide services.”^{95/} As the Commission has recognized again and again, unnecessary regulation in a competitive market “impose[s] significant costs on carriers and their customers,”^{96/} “impedes [carriers] from quickly introducing new services in response to customer demands and opportunities created by technological developments,” reduces the ability of carriers “to respond quickly to [their] competitors’ advanced services offerings and tailor [their] own offerings to meet customers’ individualized needs,” and diminishes carriers’ “ability to reduce prices and improve service in response to competitive pressures.”^{97/}

Inc. v. FCC, 138 F.3d 410, 413 (D.C. Cir. 1998); *Verizon Commc'ns, Inc. v. FCC*, 535 U.S. 467, 543-44 (2002).

^{94/} Michael Meyerson, *Ideas of the Marketplace: A Guide to the 1996 Telecommunications Act*, 49 Fed. Comm. L.J. 251, 252 (1997).

^{95/} Notice of Proposed Rulemaking, *IP-Enabled Services*, 19 FCC Rcd 4863, 4912-13 ¶ 74 (2004).

^{96/} First Report and Order, *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations*, 85 F.C.C.2d 1, 6 ¶ 14 (1980), *rev'd on other grounds*, *MCI v. FCC*, 765 F.2d 1186, 1195-96 (D.C. Cir. 1985); Order, *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, 11 FCC Rcd 3271, 3822 ¶ 27 (1995) (“*AT&T Non-Dominance Order*”).

^{97/} Memorandum Opinion and Order, *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, 17 FCC Rcd 27000, 27014-15 ¶ 26 (2002) (“*ASI Detariffing Order*”); *see also AT&T Non-Dominance Order* at 3287 ¶ 27 (regulation can “inhibit[] [a carrier] from quickly introducing new services and from quickly responding to new offerings by its rivals” and “imposes compliance costs on [regulated] carriers and administrative costs on the Commission”).

This preference for the market over regulatory prescription has been especially clear with respect to the wireless marketplace. “Congress delineated its preference for allowing this emerging market to develop subject to only as much regulation for which the Commission and the states could demonstrate a clear cut need.”^{98/} The wireless sector is to be “govern[ed] by the competitive forces of the marketplace, rather than by governmental regulation”^{99/} And, this approach has been a spectacular success in the wireless market: Each time the Commission or Congress has taken a deregulatory step in recognition of the competitive state of the wireless industry, it has spurred even greater competition, to the benefit of consumers.

For instance, in 1994 the Commission exercised its section 332(c) authority to exempt wireless carriers from unnecessary Title II requirements (such as tariffing under section 203 and market entry and exit regulation under section 214), “reasoning that competition made most forms of traditional common carrier regulation superfluous at best and counterproductive at worst.”^{100/} As noted above, in the ensuing decade, per-minute prices dropped four-fold.^{101/}

Similarly, the Commission’s decision to sunset the wireless resale mandate encouraged aggressive price competition and spawned a host of beneficial resale arrangements. The Commission had originally imposed a requirement of nondiscriminatory resale, borrowed from

^{98/} Report and Order, *Petition of the Connecticut Department of Public Utility Control to Retain Regulatory Control of the Rates of Wholesale Cellular Service Providers in the State of Connecticut*, 10 FCC Rcd. 7025, 7030, 7031-32 ¶¶ 8, 10 (1995).

^{99/} Memorandum Opinion and Order, *Southwestern Bell Mobile Systems, Inc. Petition for a Declaratory Ruling Regarding the Just and Reasonable Nature of, and State Challenges to, Rates Charged by CMRS Providers when Charging for Incoming Calls and Charging for Calls in Whole-Minute Increments*, 14 FCC Rcd 19898, 19902 ¶ 9 (1999) (citing the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996)).

^{100/} Nuechterlein, *Digital Crossroads*, *supra* n.91, at 270.

^{101/} See *supra* p. 13.

the wireline long distance market, thinking that such a mandate would foster a vigorous resale market for wireless services. Yet it was only *after* the Commission allowed the resale mandate to sunset in 2001 (in anticipation that competition would be “robust enough that the costs of government intervention in this area would outweigh the dwindling need for it”^{102/}) that the marketplace began to generate meaningful resale competition. Today, in the *absence* of any regulatory compulsion, MVNOs now play a major competitive role in the wireless marketplace.^{103/}

Other examples abound. Congress in the 1996 Act forbade the application of long-distance “equal access” requirements to wireless services.^{104/} This deregulatory decision paved the way for CMRS carriers to respond creatively to consumers’ preference for buckets of minutes that did not distinguish between local and long-distance calls. The popularity of the resulting one-rate plans produced a marketplace in which long distance service is effectively *free* — a feature that is now spreading to the wireline world as well, as wireline carriers seek to reclaim the calling that they have lost to wireless carriers.^{105/} Consumers would have been the losers if Congress or the Commission had carried over to wireless a regulatory fiat that was invented for the very different world of wireline local exchange monopoly.

^{102/} Nuechterlein, *Digital Crossroads*, *supra* n.91, at 272; *see* First Report and Order, *Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services*, 11 FCC Rcd 18455, 18478 (1996) (determining to sunset rule “in approximately five years because by that time the development of competition is expected to render the rule unnecessary”); *Cellnet Commc’n v. FCC*, 149 F.3d 429 (6th Cir. 1998); *Orloff v. FCC*, 352 F.3d 415 (D.C. Cir. 2003).

^{103/} *See supra* pp. 11, 14.

^{104/} 47 U.S.C. § 332(c)(8).

^{105/} *See, e.g.*, Janis Mara, *Cutting the Cord: Users Choose to Trade Land Lines for Cell Phones*, *Contra Costa Times*, Apr. 2, 2007 (noting that “[s]ome of the newer land line plans allow unlimited long distance calls for a flat fee”).

As these experiences illustrate, when a marketplace is competitive, regulatory edicts do not “do better” than unregulated market forces. To the contrary, virtually every time Congress and the Commission have stepped back from regulating the competitive wireless marketplace, their regulatory restraint has spurred more vigorous competition that has “done better” for consumers than the heavy hand of regulation would have done. The Commission should resist Skype’s siren call “to achieve superficial regulatory parity by senselessly subjecting wireless carriers in a robustly competitive market to forms of regulation that are appropriate only for dominant carriers.”^{106/} As demonstrated in greater detail below, the rivalry among wireless service providers and equipment makers to meet consumer needs drives an evolution toward industry practices that consumers truly value. Consumers do not need Skype to tell them what they want, or the Commission to tell the marketplace how to provide it.

II. SKYPE IGNORES THE DYNAMIC NATURE OF THE WIRELESS MARKETPLACE, WHICH DRIVES CARRIER HANDSET PRACTICES TOWARD WHAT CONSUMERS WANT.

Skype alleges that numerous carrier handset practices are anti-consumer and warrant regulatory intervention because the market alone is insufficient to change them.^{107/} Yet T-Mobile’s handset practices bear virtually no resemblance to the restrictive practices Skype describes. T-Mobile does not cripple handset features, sells and supports the use of Wi-Fi- and Bluetooth-enabled devices, broadly permits customers to use GSM handsets that can operate at 1.9 GHz on its network, and has a general policy of unlocking subsidized phones on request 90 days after purchase. If industry practices are not uniform in all these respects, that simply proves

^{106/} Nuechterlein, *Digital Crossroads supra* n.91, at 289.

^{107/} Skype Petition at 13-17.

the lie in Skype's argument: It shows that the market is in fact dynamic, creating opportunities for "natural[] self-correct[ion]" through rivalrous behavior of what Skype calls "mavericks."^{108/}

Allowing the marketplace to drive handset practices gives carriers the flexibility they need to manage important concerns, such as network congestion and call quality. It also leaves carriers free to develop innovative technological solutions and to shape services that address particular consumer needs, as discussed above. The inflexible regulatory mandate Skype proposes is at odds with all these objectives and would preclude carriers from responding to network and consumer needs.

A. Skype's Assertions Are Inaccurate and Out of Date, Proving the Fluidity and Health of the Wireless Marketplace.

Contrary to Skype's assertion that restrictive industry practices unduly limit consumer choice, the market is so competitive that handset practices are continually evolving to meet consumer demand. Skype's two dated examples of specific handset configurations that apparently did not support Skype's business model are not evidence of market failure. Wireless carriers offer a wide variety of products and services to accommodate consumers' varying needs; different products and services will therefore prove a better fit for some consumers than for others.

1. Industry Handset Practices Are Progressive and Continue To Evolve as Carriers Compete To Meet Customer Needs.

Skype's assertions about feature crippling are inaccurate and outdated. Perhaps most tellingly, the fast-moving wireless marketplace was already responding to consumer demand for Wi-Fi connectivity long before Skype complained to regulators – pointing only to the absence of

^{108/} Skype Pctition at 25.

this feature from a single handset introduced to the U.S. market by single carrier in 2006.^{109/}

T-Mobile began offering handsets with integrated Wi-Fi functionality years before Skype filed its petition.^{110/} And, months before Cingular introduced its E62 handset without Wi-Fi capability, “[m]ore than 20 Wi-Fi enabled models [we]re either already on the market or w[ould] be released soon.”^{111/} Today, every national carrier supports handsets with Wi-Fi capability,^{112/} and more than 80 handsets on the market have built-in Wi-Fi capability.^{113/}

Solutions to initial, nontrivial CMRS/Wi-Fi handset challenges^{114/} have enabled T-Mobile to take the relationship between CMRS and Wi-Fi to the next level with its T-Mobile’s HotSpot

^{109/} Skype Petition at 14-15; see Press Release, “Cingular, Nokia Introduce Nokia E62,” Sept. 12, 2006, available at http://cingular.mediaroom.com/index.php?s=press_releases&item=1666.

^{110/} T-Mobile introduced its first handset with integrated wireless, Bluetooth, and Wi-Fi functionality in 2004. See News Release, “T-Mobile USA and HP Launch the First Truly Integrated Wireless iPAQ Handheld,” Jul. 26, 2004, available at <http://www.hp.com/hpinfo/newsroom/press/2004/040726e.html>; see also News Release, “T-Mobile USA Introduces Two New Smartphones to Keep You Effortlessly Connected,” Feb. 13, 2006, available at <http://www.t-mobile.com/company/PressReleases> (discussing T-Mobile’s introduction of Wi-Fi capable smartphones, likewise introduced years before Skype’s petition).

^{111/} Caroline McCarthy, *Study: Wi-Fi Cell Phones Will Hit It Big*, Jul. 7, 2006, available at http://news.com.com/2102-1039_3-6088484.html?tag=st.util.print.

^{112/} See, e.g., News Release, “T-Mobile Unveils a New Full-Featured Smartphone, the T-Mobile Dash,” Oct. 11, 2006, available at http://www.t-mobile.com/company/PressReleases_Article.aspx?assetName=Prs_Prs_20061011&title=T-Mobile%20Unveils%20a%20New%20Full-Featured%20Smartphone,%20the%20T-Mobile%20Dash (discussing one of three Wi-Fi enabled handsets offered through T-Mobile). And Skype reportedly has teamed with Motorola to offer Wi-Fi-enabled handsets, too. See *Study: Wi-Fi Cell Phones Will Hit it Big*, available at http://news.com.com/Study+Wi-Fi+cell+phones+will+hit+it+big/2100-1039_3-6088484.html.

^{113/} See Amol Sharma, *What's New in Wireless*, Wall Street Journal, Mar. 26, 2007 at R1; available at <http://online.wsj.com/article/SB117434453204441967-search.html?KEYWORDS=t-mobile&COLLECTION=wsjie/6month>.

^{114/} Specifically, carriers needed time to develop a solution for seamless call hand-off between a cellular network and a Wi-Fi hotspot, as well as to develop a solution to the excessive battery drain experienced by early Wi-Fi handsets. See Ben Charny, *Wi-Fi Phones Make a*

@Home service. With this service, customers may use a single device to communicate via T-Mobile's licensed network or through any available Wi-Fi hotspot, with a seamless handoff of calls between the two modes.^{115/} HotSpot @Home customers enjoy Wi-Fi connectivity in their homes supported by their home broadband connections, as well as access to approximately 8,000 reliable wireless Internet connections (T-Mobile HotSpots) in coffee shops, hotels, stores, and airports nationwide.^{116/} Thus, a customer can begin a conversation on her home Wi-Fi network, continue it on T-Mobile's licensed network as she travels, and finish it on a T-Mobile branded Wi-Fi HotSpot when she stops for coffee. Consumers benefit from the ability to complete calls where a wireless signal may be unavailable, such as deep within a building. HotSpot @Home subscribers purchase an add-on to their existing plan that provides for unlimited Wi-Fi calls, so they conserve their wireless minutes. And, T-Mobile and its customers benefit from easing the load on T-Mobile's licensed spectrum.

The service was introduced on a market trial basis in the Seattle area in October 2006.

Other carriers are looking at ways to provide similar services.^{117/} These capabilities are being

Splash, CNET News.com, Feb. 3, 2005, available at http://news.com.com/2102-7351_3-5296745.html?tag=st.util.print (quoting Brad Weinert, Vice President of Novatel wireless). Although Skype may not deem these issues "harm that may be caused to the network," Skype Petition at 14, they are legitimate reasons why carriers may have disabled Wi-Fi features in early Wi-Fi-enabled handsets.

^{115/} See <http://www.theonlyphoneyouneed.com/>. The service uses "Unlicensed Mobile Access," a feature of the GSM standard that permits transmission of GSM signals over unlicensed spectrum. See www.umatechnology.org.

^{116/} T-Mobile customers may purchase access to the branded T-Mobile HotSpots, without home Wi-Fi connectivity, through T-Mobile's HotSpot service. These services allow customers to perform any online tasks via any Wi-Fi-enabled device, including laptop computers, smartphones, handheld PDAs and personal communicators, and even wireless digital cameras.

^{117/} See Ben Charny, *Wi-Fi Phones Make a Splash*, CNET News.com, Feb. 3, 2005 (stating that in 2005, "any major carrier in North America . . . today" is "at the very least in the strategic

developed without Skype's requested regulatory intervention, refuting Skype's suggestion that regulation is necessary to prevent carriers from "restrict[ing] consumers' ability to access innovative applications and services [like VoIP] that they perceive as competing with their own applications and services."^{118/}

Skype's complaint about crippled Bluetooth functionality is likewise unsupportable.^{119/} T-Mobile introduced phones with Bluetooth functionality as early as 2004,^{120/} and today 26 of the 37 handsets available for purchase from T-Mobile.com include Bluetooth functionality. In fact, most wireless carriers offer Bluetooth-enabled handsets today.

The staleness of Skype's complaints about carrier handset practices highlights the fluidity of the wireless marketplace. This is one key reason that regulation — even regulation designed to preserve the "best practices" of T-Mobile and other carriers today — is wholly inappropriate. Just as one cannot step twice into the same river, one cannot describe twice the same wireless marketplace. By the time a regulator has studied today's practices and considered whether he might be able to "do better," the river will have flowed on and rendered his efforts obsolete. Further, as discussed below, freezing in place any set of carrier practices would preclude carriers from reacting to network developments or equipment capabilities that *do* present significant

planning phases of integrating Wi-Fi and cellular into a package. What's holding them back is the infrastructure to manage this on a large scale. But the operators are certainly driving in this direction quickly."), *available at* http://news.com.com/2102-7351_3-5296745.html?tag=st.util.print.

^{118/} Skype Petition at 5, 18.

^{119/} *Id.* at 15.

^{120/} See Press Release, "T-Mobile USA and HP Launch the First Truly Integrated Wireless iPAQ Handheld," Jul. 26, 2004, *available at* <http://www.hp.com/hpinfo/newsroom/press/2004/040726e.html>.

spectrum or service quality issues. While this has not been an issue in most cases to date, there have been circumstances where carriers have needed to work with manufacturers to address problems. The difference between regulation and reliance on the market is that the latter permits the flexibility carriers need.

2. Many of the Handset Practices Skype Criticizes Reflect U.S. Consumers' Preference for Discounted Handsets.

Skype's belief that American consumers should buy handsets only at full price is out of touch with the market and the strong U.S. consumer preference for buying discounted, bundled handsets instead of full-priced handsets. As the Commission predicted years ago, U.S. wireless consumers have embraced bundling, thereby boosting the U.S. wireless penetration rate.

Like most other U.S. carriers, T-Mobile offers its customers bundled handsets at significant discounts and wireless service at reduced rates in return for service term commitments. For instance, T-Mobile customers may buy the T-Mobile Dash smartphone handset from T-Mobile at the unsubsidized price of \$349.99, or for the discounted price of \$199.99 with a two-year service contract. Contrary to Skype's suggestion that term commitments are anti-consumer,^{121/} this practice increases consumer choice and reduces the cost of wireless equipment and service to consumers, and is therefore economically efficient and consumer welfare enhancing.^{122/}

^{121/} See Skype Petition at 29.

^{122/} Professor Wu "do[es] not address" whether bundling is pro-consumer or anti-consumer, but acknowledges that "current low upfront prices made possible by subsidies [may be] important to ensure the affordability of phones for consumers." *Wu Working Paper* at 8.

Other carrier practices that Skype attacks as anti-consumer,^{123/} such as handset locking,^{124/} are an appropriate response to consumers' preference for less expensive handsets. As a practical business matter, carriers would have little incentive to offer discounted phones to consumers if those consumers were able to take the phones to another carrier immediately. Fraud and transshipment (e.g., shipment of phones to other countries for resale) concerns also justify short-term locking. Even Skype concedes that handset locking is a legitimate business practice when used to "prohibit theft or fraud and [to] enforce[] a rental or installment contract."^{125/}

Thus, Skype's proposal to limit carriers to offering only full-priced handsets and higher-priced services without term commitments is squarely at odds with U.S. consumer preferences. Banishing carriers' reasonable use of term commitments and discounted equipment would only limit consumer choice and take away the wireless pricing options American consumers prefer. In Skype's world, all consumers would suffer from the reduced freedom of choice, and less affluent customers — who could be locked out of the advanced wireless services market by the high up-front cost of 3G handsets — would likely suffer the most. The fact that consumers prefer options that may not best serve Skype's preferred business plan is not a legitimate reason for regulators to take those decisions out of consumers' hands.

^{123/} See Skype Petition at 23.

^{124/} If a T-Mobile handset is locked when sold in conjunction with a service contract, T-Mobile will unlock it upon request 90 days after service is initiated.

^{125/} Skype Petition at 17.

B. By Seeking To Deprive Carriers of Flexibility To Manage Their Networks and Introduce New Offerings, Skype's Petition Flies in the Face of Consumer Preferences for Innovative Offerings.

A number of Skype's complaints strike at wireless carriers' ability to manage their networks, and therefore threaten the value most prized by consumers: quality of service.^{126/} As discussed above, the shared nature of wireless bandwidth makes it necessary for carriers to retain the flexibility to manage spectrum use. Meanwhile, the complexity and flux of wireless technology require constant collaboration between carriers and handset manufacturers to ensure optimal interoperation of networks and handsets as new technology and features are introduced. As noted above, this does not mean that carriers seek to strictly limit consumer choice or handset options. In fact, T-Mobile's current practice is generally to permit customers to use GSM-based devices, as noted above.^{127/} But especially where the market is already protecting consumer interests and sparking competitive choices, regulators should not intervene to mandate specific outcomes. Doing so would preclude carriers from imposing restrictions or acting as necessary to protect their networks and their customers.

Because handsets may adversely affect service quality and the customer experience, it is important that carriers retain the option of limiting the devices that may be attached to their networks. T-Mobile takes two important steps to mitigate the potential adverse impact that

^{126/} See Joni Morse, *The Wireless VoIP Buzz*, *Wireless Week*, Mar. 15, 2007 ("Carriers have a history of working to protect their subscribers from bad user experiences related to handsets and content, and they're not inclined to make their subscribers vulnerable to poor voice quality.").

^{127/} T-Mobile reasonably reserves the right to protect against customer actions that could harm the network or degrade other users' experiences, but does not prohibit the attachment of any devices or the use of any specific applications. See T-Mobile Terms and Conditions, available at http://www.t-mobile.com/Templates/Popup.aspx?PAsset=Ftr_Ftr_TermsAndConditions&print=true.

equipment use may have on its customers' enjoyment of the T-Mobile network. First, T-Mobile tests and optimizes all of the devices it sells for use on the T-Mobile network – just as Skype seeks to do for hardware that will support Skype.^{128/} Second, T-Mobile trains customer care representatives to provide dedicated, award-winning, and comprehensive support for all wireless devices sold by T-Mobile. Indeed, T-Mobile has won several recent awards from J.D. Powers and Associates and others because of its steadfast commitment to customer service.^{129/} Given the number of other wireless devices available today, the company's customer care representatives cannot offer this level of support for the hundreds of handsets not offered by T-Mobile that may be attached to the T-Mobile network, and thus the consumer's experience and support is necessarily enhanced when she uses a supported handset.^{130/}

As noted above, carriers must have flexibility to address handset issues to enhance efficient spectrum use as well. For example, when T-Mobile was faced with a potential temporary bandwidth shortage in the New York City area, it conserved spectrum by promoting

^{128/} See <https://developer.skype.com/Certification/Hardware>.

^{129/} T-Mobile received customer service awards from J.D. Powers and Associates for “2006 Highest Ranked Wireless Customer Service Performance,” “2006 Highest Overall Satisfaction Among Wireless Cell Phone Users,” and “2006 Highest Ranked Call Quality Performance.” See http://www.t-mobile.com/Company/CompanyInfo.aspx?tp=Abt_Tab_Awards.

^{130/} To further minimize the potential impact of handset issues on quality of service, T-Mobile offers a one-year limited warranty on handsets bought through T-Mobile. And later this year, T-Mobile will introduce its Premium Handset Protection Program, offering an insurance policy for handsets bought through T-Mobile against loss, theft, damage, or malfunction. Handsets not purchased through T-Mobile are not eligible for T-Mobile's warranty or insurance programs; they are covered only by the one-year original equipment manufacturer (“OEM”) warranty for defective equipment.

(through highly discounted prices) spectrum-efficient AMR handsets to its customers.^{131/}

T-Mobile thus weathered the spectrum shortage without a drop in service quality, enhanced its customers' calling experiences, and gave consumers the added benefit of heavily discounted handsets. Regulations requiring that all handsets be equally promoted or permissible could have restricted T-Mobile's ability to provide such high quality and cost effective service to its customers.

In addition to high quality service, consumers also want innovative handsets with new functionalities. For this reason, Skype's attack on exclusive distribution arrangements is also seriously out of step with consumers' desires.^{132/} The carrier practice of contracting in some instances for the exclusive right to distribute a new handset model (typically for a short period of time) has been a highly effective means of differentiating carrier offerings and introducing new handsets.^{133/} This practice also reflects the reality that some innovations require simultaneous implementation in the handset and the network. Thus, while Skype attacks these short-term exclusive distributorships as a practice that "prevent[s] or at best discourage[s] customers from porting their handsets to a different service,"^{134/} they are actually a sign of a healthy market in

^{131/} "AMR" or "advance multi-rate" voice coders permit GSM operators to manage dynamically the bit rate associated with encoding voice transmissions, resulting in more available bandwidth and increased coverage within a given cell.

^{132/} See Skype Petition at 29.

^{133/} For example, T-Mobile was the exclusive U.S. distributor of the BlackBerry Pearl for less than 3 months; the Pearl is now available from multiple outlets for use on multiple networks. See http://na.blackberry.com/eng/devices/device-detail.jsp?navId=H0,C101,P203#tab_tab_purchase.

^{134/} Skype Petition at 16 n.30.

which carriers and manufacturers trip over each other to offer their customers the next “new thing.”

III. SKYPE’S REQUEST FOR REGULATION OF WIRELESS APPLICATIONS GOES FAR BEYOND *CARTERFONE* TO IMPOSE A SPECIES OF UNJUSTIFIED “NET NEUTRALITY” REGULATION ON WIRELESS SERVICES.

Skype asks the Commission to mandate not only that any *device* can be attached to wireless networks, but also that any *application* may be run on such networks.^{135/} Since Skype sells principally an application, this is likely the chief objective of Skype’s petition. But the right to run any application – via a mandate that all carriers support all applications – goes well beyond anything in *Carterfone*. While wrapped in the *Carterfone*, Part 68 banner, Skype’s far-reaching and unprecedented proposal is more akin to a “net neutrality” regime for wireless applications.^{136/} So-called “net neutrality” – which is a matter of much debate in the wireline world – would be especially unwarranted and detrimental for wireless networks.

A. Skype’s Proposal Is Unnecessary in Light of the Highly Competitive Nature of the Wireless Marketplace.

Skype’s proposal, and other permutations of “net neutrality,” all rest on one premise: Insufficient competition exists among carriers to restrain them from engaging in anticompetitive conduct that harms consumers. Whether or not this is true of wireline broadband, it certainly is

^{135/} *Id.* at 25-28.

^{136/} The asserted right to run any application is a common tenet of wireline net neutrality proposals. *See, e.g., Wu Working Paper* at 3, 32 (“Wireless carriers should be subject to the same core network neutrality principles under which the cable and DSL industries currently operate. Consumers [should] have the basic right to use applications of their choice and view the content of their choice.”); R. Michael Senkowski, *et al., Net Neutrality Primer*, 11 NO. 6 *Cyberspace Law*. 5 (Jul. 2006) (discussing proposed net neutrality legislation).

not true of wireless broadband, which is marked by intense competition from multiple providers in every market.

There is no evidence of market failure that would justify regulatory intervention here. Wireless carriers must respond to consumers' demands with respect to applications, subject to network protection measures, because their customers could always go to another wireless carrier – or to another platform – to get what they want. But Skype, apparently unwilling to allow consumer interest to drive the market, seeks a regulatory requirement that every wireless carrier ensure that Skype's software will run on its network.^{137/}

Skype's unfounded concern that “four, large nationwide carriers” are using their “market power” to “frustrate new sources of price competition to traditional voice services”^{138/} again describes a world far different from the one in which T-Mobile operates. While reserving the important right to limit harmful uses, T-Mobile currently does not generally prohibit customers from running any specific applications – including VoIP applications like Skype's – on its wireless or Wi-Fi networks. Thus, while Skype asks the Commission to forbid “blocking, locking, or certification requirements” that could prevent wireless consumers from using its application,^{139/} the market itself is already moving to give customers access to such applications to the extent those applications are compatible with and not harmful to the networks or other users. As any application gains popularity among consumers, carrier competition will drive the marketplace toward ensuring broader and easier use of that application.

^{137/} See *supra* n.4.

^{138/} Skype Petition at 22-23.

^{139/} Skype Petition at 31.

Indeed, this is precisely what occurred in the marketplace as applications related to Internet access, email, and geolocation capabilities gained popularity. Contrary to Professor Wu's suggestion,^{140/} today's wireless carriers (and T-Mobile in particular) make unfettered Internet access and geolocation capabilities widely available. Initially, mobile Internet access offerings *were* largely limited to "walled garden" approaches due to the limited capability of handsets to run HTML browsers.^{141/} However, as customers wanted broader access and handset capabilities increased, carriers have largely migrated to a more open Internet access model. For example, T-Mobile data service subscribers with HTML-enabled smartphones or Wi-Fi-enabled laptops currently enjoy unfettered Internet access, including access to email accounts and other applications.

Similarly, wireless carriers are increasingly offering services that capitalize on handset geolocation capabilities, including mobile social software (such as Helio's Buddy Beacon^{142/}) and GPS-enabled maps for getting directions or allowing parents to track the location of their children.^{143/} Whether every carrier offers geolocation-based services or whether every handset has geolocation capabilities is immaterial; what matters is that where there is customer demand,

^{140/} Wu *Working Paper* at 15-16, 27.

^{141/} WAP-compatible wireless Internet browsing remains available today for consumers without HTML-enabled handsets, and a growing amount of WAP-compatible content is available on the Web.

^{142/} See Press Release, "HELIO Drift has Arrived: Exclusive Samsung Device Debuts GPS-Enabled Google Maps for Mobile and Buddy Beacon," Nov. 9, 2006, *available at* http://www.helio.com/page?p=press_release_detail&contentid=1163038493005.

^{143/} See Edward C. Baig, *Disney Mobile Family Cellphone Service Helps Parents to Keep Track of Kids*, USA Today, Jul. 26, 2006, *available at* http://www.usatoday.com/tech/columnist/edwardbaig/2006-07-26-disney-mobile_x.htm.

carriers and handset manufacturers have sought to differentiate themselves by offering the desired capability, making regulatory intervention unnecessary.

In short, carriers today are generally moving toward supporting the applications consumers seek. Trying to craft a regulatory mandate designed to reproduce the results of the competitive marketplace would be counterproductive. As discussed below, carriers must be free to respond to consumer needs in ways that are consistent with protection of their networks and other users.

B. Prescribing Wireless Application Interfaces Would Be a Massive Regulatory Undertaking, Discourage Network Innovation, and Impede Carrier Responsiveness to Consumer Needs.

Although Skype asserts that the regulatory intervention it seeks would “*protect consumers’ rights* to use the Internet communications software of their choice,”^{144/} consumers stand only to lose if the Commission attempts to prescribe wireless application practices. Even more than Skype’s proposal for hardware regulation, its proposal to set standards for running software on wireless networks would burden the Commission with a nearly impossible regulatory task. And, the regulations, if imposed, would inevitably stifle wireless network innovation, hamstring carriers’ ability to manage their network resources and maintain quality of service, and likely impose a wireless broadband pricing model that consumers do not prefer.

Wu rightly acknowledges that “[i]t is doubtful that government can play a useful role” in creating a standardized mobile application development environment.^{145/} Skype nevertheless asks the Commission to undertake the extraordinary responsibility of developing “transparent technical standard[.]” interfaces between the varied wireless network technologies and wireless

^{144/} Skype Petition at 30 (emphasis added).

^{145/} *Wu Working Paper* at 23.

applications.^{146/} Unlike the Part 68 interface standards for wireline devices, which Skype blithely cites as a model,^{147/} interface standards for wireless applications would not be formulated in a static technological environment for a single network technology. The Commission would have to contend with fast-moving and varied network technologies, hundreds of wireless devices, and diverse operating systems and middleware. The Commission's institutional capabilities are not suited to this immensely complex undertaking. As in other technology industries, standardization should emerge through evolving industry practices and voluntary standards development, which will occur to the extent that the market demands and the pace of technological change permits.^{148/}

Even if the Commission were to “succeed” in prescribing wireless interface standards and precluding any network changes that do not equally accommodate all applications, consumers would not benefit. Innovation in the network would be discouraged, turning wireless service into a commodity that would merely support the innovation and advances of others at the edge of the network. Carriers would lose any incentive to work with specific application providers (or equipment manufacturers) to develop specialized capabilities that could serve as market differentiators or address consumer demands. It is hard to imagine a surer way to discourage

^{146/} See *supra* n.1.

^{147/} Skype Petition at 30.

^{148/} Some nascent market-based standards may already be emerging. See *Mobile 2.0 Breaking Down Cell's Walled Gardens with Open Standards, Say Executives*, Comm. Daily, Apr. 18, 2007 (Open Mobile Alliance's work now ensures that the network building blocks it standardizes can be used regardless of communications access technology); see also *Editors Perspective – The Open Network*, Telephony's Wireless Review, Feb. 27, 2007 (“[t]he odd thing is that what Skype is demanding is already happening, maybe not as quickly as Skype would like but happening nonetheless.”).

carriers from investing to improve their network capabilities.^{149/} To date, such network innovation has yielded enormous consumer benefits — including improved quality of service, the capability to filter out unwanted content, support for emergency services, and protections against the introduction of viruses and malware. The marketplace should be allowed to determine which functions will occur in the network and which in handsets, as all the interrelated technologies evolve.^{150/}

Moreover, carriers must have the ability to control the uses of their services in order to promote efficient use of spectrum and ensure network integrity and quality of service. As noted above, for example, even while generally not restricting attachments or applications, T-Mobile necessarily reserves the right to protect its network against improper uses that could harm the network or adversely affect service quality for others.^{151/} Such reasonable acceptable-use

^{149/} “[R]ational firms do not generally choose to incur huge sunk costs to provide a product that, by regulatory design, must be largely indistinguishable from all other such products.” Nuechterlein, *Digital Crossroads supra* n.91, at 176.

^{150/} For example, Vinod Khosla (whose venture capital firm is heavily invested in the iSkoot Skype-to-mobile extender service) suggests that a solution to battery limitations is for “all computation [to] happen in the network, not on the device. The device should be a display – an interaction device.” Video on the Net Conference, Question and Answer Session, Mar. 2007, video available at <http://www.tvworldwide.com/events/videoonthenet/070319/default.cfm?id=8038&type=wmhigh>. Wireless carriers used this technique in incorporating GPS technology for the purposes of E-911: to minimize the drain on the handset’s battery from the need to fix on and collect GPS satellite data, carriers developed network-based assistance capabilities. It bears noting that Skype’s request that any handset should be allowed to attach to a wireless network would have wreak havoc on the E911 Phase II capabilities of wireless operators that have deployed network-assisted GPS unless the functionalities of each handset were first harmonized with those network capabilities.

^{151/} See T-Mobile Terms and Conditions for CMRS service, available at http://www.t-mobile.com/Templates/Popup.aspx?PAsset=Ftr_Ftr_TermsAndConditions&print=true (“You may not use, or attempt to use, the Service, the network, or your Phone for any fraudulent, unlawful, improper, harassing, excessive, harmful, or abusive purpose (“Improper Uses”), or so as to adversely or negatively impact our customers, employees, business, ability to provide quality service, reputation, or network, or any other person.”); T-Mobile Terms and Conditions

policies must be available to protect against the possibility that some applications could consume excessive bandwidth or even bring down a wireless network.^{152/} Carriers could not satisfactorily manage their networks if they could take action regarding a harmful use only after first clearing the regulatory hurdle of “reasonably prov[ing] that such software harms the network.”^{153/} In fact, a regulatory mandate that carriers support *all* applications in the first instance would multiply exponentially the likelihood of network harm and bandwidth “hogging,” making it *more* important that carriers have the flexibility to impose prompt corrective restrictions — and more likely that they might have to exercise that ability.

Some “net neutrality” advocates suggest that bandwidth management concerns, in particular, would dissipate if carriers moved to metered pricing — thus forcing bandwidth “hogs” to pay for the excessive kilobits they use.^{154/} But, again the “solution” butts against strongly evidenced consumer preferences. American users have shown that they dislike metered pricing,

for HotSpot service, at 7, *available at* <http://selfcare.hotspot.t-mobile.com/terms.do> (“You agree not to use or attempt to use the Service, the T-Mobile network or website, or your Device for any fraudulent, unlawful, harassing or abusive purpose, or so as to damage or cause risk to our business, reputation, employees, subscribers, facilities, or to any person.”).

^{152/} See *supra* pp. 21-22. Even Skype acknowledges that limitations on excessive customer use may be necessary to ensure quality of service. See Skype’s Unlimited Calling in U.S. and Canada: Special Terms and Conditions, *available at* http://www.skype.com/company/legal/terms/unlimited_calling.html (requesting that customers “use the VoIP service fairly and sensibly” and “reserve[ing] the right to terminate [a customer’s] access to [his] account immediately . . . [i]f Skype does see excessive use or systematic or intentional misuse . . .”).

^{153/} Skype Petition at 31-32.

^{154/} See, e.g., *Wu Working Paper* at 27 (“The second necessary element for addressing scarcity is pricing that reflects the scarcity of the resource . . .”). Wireless pricing today is volume-sensitive to some extent, as witnessed by the higher prices for larger buckets of minutes.

whether for local telephone service, wireless services, Internet access, or broadband services.^{155/} A regulatory decision prohibiting carriers from limiting bandwidth consumption via terms of service could effectively compel carriers to use metered pricing across the board for all wireless broadband services — thus frustrating this strong consumer preference. Moreover, stringent metered pricing of broadband services would be difficult to achieve and might impose transaction costs in excess of its benefits.^{156/} And, if a disastrous overuse occurred, sending a bill to the offender afterwards would not remedy the harm to other users.

Limitations on the use of certain applications also may be necessary to serve particular consumer needs in the mobile context. For example, wireless carriers must have the flexibility to offer parents user friendly and effective means to restrict content accessed by minors' cellphones. They must also cope with increasing threats from malware, which may disable handsets and harm wireless networks. Skype itself has acknowledged the need to protect network integrity, in stating the reason why it declines to release its source code.^{157/} Its request that the Commission strip wireless network operators of the same ability to ensure the integrity of their networks thus rings hollow.

^{155/} For instance, the success of one-rate plans has made metered pricing even for long-distance service largely a thing of the past. *See supra* n.49, p. 29.

^{156/} *See* William D. Rahm, *Watching Over the Web: A Substantive Equality Regime for Broadband Applications*, 24 Yale J. Reg. 1, 37-38 (2007).

^{157/} “There is always a trade off between whether we can protect . . . the integrity of the network because if we are to open source . . . Skype, you will see a lot of bots, a lot of spamming, spoofing, and all those kinds of nasty things you have on email, and you don't have on Skype because you have a secured network.” Video on the Net Conference, Question and Answer Session, Mar. 2007, video *available at* <http://www.tvworldwide.com/events/videoonthenet/070319/default.cfm?id=8038&type=wmhigh> (quoting Skype CEO and founder Niklas Zennstrom).

Like its proposal to regulate handsets, Skype's proposal to regulate wireless applications is an inapt solution in search of a problem. Today's competitive marketplace knows a better way. The marketplace can determine whether a particular user need can be met best through an application running in a handset or through the interplay of innovative capabilities in the network and in terminal equipment. And, where the latter is the case, carriers have every incentive to work with manufacturers to coordinate development. Skype has identified no market failure and thus no reason to think that regulators are likely to "do better" than the marketplace can do. The tasks that Skype would have regulators undertake far exceed their capability to "get this right."^{158/} While Skype may perceive that such regulatory intervention is in Skype's interest, it is clearly not in the interest of wireless consumers.

^{158/} "If the Commission gets this right we will create conditions for innovation and price competition in the wireless industry from software services like Skype." *Skype Wants Carterfone Neutrality Rules Applied to Wireless*, Telecom A.M., Feb. 22, 2007 (quoting Christopher Libertelli) (emphasis added).

CONCLUSION

For these reasons, the Skype petition should be dismissed in its entirety.

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