

## **Locking Down the Third Screen: How Wireless Firms Thwart Users' Access to Content**

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Wireless handsets increasingly offer more than tetherless telephone calls, text messaging and ringtones. Next generation networks and the sophisticated handsets that access them, offer a variety of new information, communications and entertainment (“ICE”) services. Wireless handsets have begun to function more like mobile computers offering consumers a third screen alternative to televisions and larger desktop and laptop computers. <sup>1</sup>

The wireless third screen has the potential to offer users mobile access to everything the Internet can provide. However it has become clear that most wireless carriers have a financial interest in steering subscribers to a more limited “walled garden” of content and services provided by the carrier, an affiliate of the carrier, or a third party that has secured preferential access to the carrier’s subscribers in exchange for sharing revenues. Unlike computer terminals where users have easy and unfettered opportunities to exit the carrier’s walled garden, wireless subscribers may experience difficulty, and incur costs when departing from wireless carriers’ walled gardens.

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<sup>1</sup> See, e.g., International Telecommunication Union, ITU New Initiatives Programme: The Regulatory Environment for Future Mobile Multimedia Services, World Wide Web Site, available at: <http://www.itu.int/osg/spu/ni/multimobile/index.html>.

While Internet Service Providers (“ISPs”) have limited control over users’ computer terminals, wireless carriers can and do impose substantial operational limitations on handset use. Some of these restrictions represent necessary safeguards in light of the fact that wireless handsets use scarce radio spectrum. But most restrictions result when carriers seek to recoup financial subsidies for handsets sold in conjunction with new or renewed service agreements. Additionally carriers seek strategic opportunities to squeeze out more revenues per subscriber, to prevent migration to the services of another carrier and to keep subscribers within the confines of the carrier’s walled gardens.

National regulatory authorities (“NRAs”) must balance the carriers’ interests in finding new revenue centers to pay for next generation network upgrades and subscribers’ interests in maximizing their freedom to use handsets they own. NRAs should help promote carriers’ exploitation of technological and marketplace innovations that make it possible for wireless carriers to provide a combination of telecommunications, information and video programming services. But regulators also must guard against carrier anticompetitive strategies designed to favor their ICE services by handicapping access to alternative sources. This paper will consider the regulatory quandary presented by third screen convergence and what NRAs can do to promote competition and innovation in ICE services.

## **I. The Regulatory Quandary Presented By Third Screen Convergence**

Innovations in wireless handsets make it possible for devices to provide access to a variety of ICE services that include telephone calling, information services, e-commerce applications, position location functions, as well as access to the Internet and video programming. Wireless handsets have become an electronic Swiss Army knife capable of

exploiting ICE convergence and easily toggling between first, second and third generation wireless functions. In the first generation of wireless handsets users made mobile telephone calls almost exclusively. With digitization in the second generation, subscribers could engage in text messaging, photography, music downloading and other functions that rely on memory storage, keypads and video screens. In the evolving third generation the wireless handset can switch between legacy functions and new features that can convert the handset into a mobile computer terminal, television set, and platform for access to most multimedia content.<sup>2</sup>

NRAs appear ill-equipped to apply different regulatory regimes to the same enterprise that now can easily shift functions. Prior to the onset of robust technological and market convergence, NRAs could erect different and mutually exclusive regulations based on the single set of functions any one enterprise would offer. NRAs in most nations have established different regulatory requirements for broadcasters, cable television operators, telephone companies, and ISPs based on the specific characteristics of each type operator. Most NRAs have yet to address the impact of convergence that makes it possible for wireless carriers to offer, and user operated devices to access, a combination of services and functions that run the gamut of regulatory classifications.

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<sup>2</sup> “Convergence in telecommunications gives many consumers access to multiple technologies or platforms that can be used to send and receive voice communications. Consumers are no longer limited to wireline platforms: they can choose from a range of platforms, including wireless and broadband. As wireless and broadband technologies have become more widely available to and used by consumers, they have increasingly become part of the competitive continuum. As more consumers view and use wireless and broadband services as substitutes for wireline services, the extent to which wireline and broadband services are competitive with wireline services will increase.” Ed Rosenberg, *Assessing Wireless and Broadband Substitution in Local Telephone Markets*, The National Regulatory Research Institute, Publication No. 07-06, at 31 (June 2007) <http://nrri.org/pubs/telecommunications/07-06.pdf>.

To make matters even more complicated in the wireless marketplace, carriers blend content and conduit making it all but impossible to establish “bright line” regulatory demarcations between the provision of telecommunications transmission services and the content these links transmit. In previous regulatory regimes NRAs could separate the content provider from the content carrier subjecting the former to little, if any, government oversight while subjecting the latter to extensive common carrier price and quality of service regulation.

In the United States, the Federal Communications Commission (“FCC”) has created a largely deregulated classification, information services, and seeks to classify as many convergence services as plausible into that category with an eye toward promoting marketplace driven competition and innovation.<sup>3</sup> The FCC has opted to ignore or subordinate the conduit function provided by carriers and to emphasize that these carriers provide access to video content and information services. Reviewing courts have endorsed this regulatory and semantic sleight of hand,<sup>4</sup> but the FCC has offered no sustainable model for treatment of convergent services, such as Voice over the Internet Protocol

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<sup>3</sup> See, e.g., *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, Declaratory Ruling*, 22 FCC Rcd. 5901 (2007); Information service is defined as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.” 47 U.S.C. § 153(20). “[T]he language and legislative history of . . . [the Communications Act of 1996] indicate that the drafters . . . regarded telecommunications services and information services as mutually exclusive categories.” Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 FCC Rcd. 11,501, 11,522–23 (1998); see also *Vonage Holdings Corp. v. Minnesota Pub. Utils. Comm’n*, 290 F. Supp.2d at 994, 1000 (2003) (applying the FCC’s dichotomy).

<sup>4</sup> *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*,

(“VoIP”)<sup>5</sup> telephony and Internet Protocol Television (“IPTV”)<sup>6</sup> that the FCC wants to treat as unregulated services even as they compete directly with pre-existing (“legacy”) common carrier telephone and television service providers. The FCC has largely accepted the view that wireless carriers need to qualify for a deregulated “safe harbor” if they are to have the necessary incentives to invest in next generation infrastructure and spectrum auctions. The FCC blithely ignores the likely probability that incumbent wireless carriers would invest in any new spectrum to foreclose market entry by new competitors and the growing reliance of incumbent wireline carriers on wireless services to generate revenues in light of declines in previous core market segments, e.g., local and long distance telephone service.

## **II. Finding the Way Forward—A Level Competitive Playing Field**

A regulatory vacuum currently exists for wireless ICE services. Most NRAs have yet to state explicitly what regulatory requirements wireless carriers incur when they provide both content and conduit for next generation ICE services. For nations predisposed

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545 U.S. 967 (2005)(upholding the FCC’s determination that cable modem provided Internet access constitutes an information service). *See also*, See Rob Frieden, What Do Pizza Delivery and Information Services Have in Common? Lessons From Recent Judicial and Regulatory Struggles with Convergence, 32 RUTGERS COMPUTER. & TECH. L.J., No. 2, 247–296 (2006).

<sup>5</sup> Voice over the Internet Protocol (“VoIP”) offers voice communications capabilities, much like ordinary telephone service, using the packet switched Internet, for all or part of the link between call originator and call recipient. VoIP calls originating or terminating over the standard, dial up telephone network require conversion from or to the standard telephone network’s architecture that creates a dedicated “circuit-switched” link, as opposed to the ad hoc, “best efforts” packet switching used in the Internet.

<sup>6</sup> Internet Protocol Television (“IPTV”) offers access to video programming via the Internet. Users can download files that contain such content for subsequent viewing. Alternatively they can receive an online “stream” of video packets corresponding to an existing file, or a simulcast of “live” programming.

to support marketplace competition and deregulation wireless carriers appear to have assumed that they can avoid conventional telecommunications regulatory burdens.

For example, in the United States wireless carriers have actively and aggressively limited subscribers' handset flexibility and freedom without punishment. Wireless carriers can lock handset access to content and lock out content providers' access to handsets. Set out below is a list of existing lock out strategies:

Locking handsets so that they cannot access competitor networks (by frequency, transmission format, firmware or software); in the U.S. carriers even lock handsets designed to allow multiple carrier access by changing an easily inserted Subscriber Identity Module ("SIM");

Using firmware "upgrades" to "brick," i.e., render inoperative, the handset or alternatively disable third party firmware and software;

Disabling handset functions, e.g., bluetooth, Wi-Fi access, Internet browsers, GPS services, and email clients;

Specifying formats for accessing memory, e.g., music, ringtones, and photos;

Creating "walled garden" access to favored video content of affiliates and partners; and

Using proprietary, non-standard interfaces making it difficult for third parties to develop compatible applications and content.

NRAs need to impose safeguards that prevent wireless carriers from imposing limitations on handsets that have nothing to do with legitimate network management and everything to do with favoring affiliated content providers and erecting barriers to subscriber access to third party service providers. These safeguards should specify that subscribers have a right to use any technically compatible handset to access any available source of content, software or computer application whether or not affiliated with the

wireless carrier providing the link.<sup>7</sup> Long ago NRAs rejected any attempt by wireline carriers to limit, block or disable access by handsets bought from unaffiliated suppliers.<sup>8</sup> Consumers take for granted the right to buy and operate their own telephones for access to wireline networks and the same principle should apply for access to wireless networks.

Already some purchasers of Apple iPhones and other cellphones have resorted to “self help” tactics to eliminate manufacturer or carrier-imposed limitations on the handset’s versatility, features and access to third party applications and content. Rather than all but criminalize such tactics, NRAs should establish a handset technical certification process that makes it possible for any handset, operating in the proper format and frequency, to access any carriers’ network. At the very least NRAs should expressly adopt an explicit policy that forecloses wireless operators from imposing handset restrictions having no basis in legitimate network management.

Rather than wait for a consumer revolt, NRAs should state explicitly that:

- 1) Wireless subscribers have the right to attach any handset that complies with standards designed to protect networks from technical harm; Wireless operators should bear the burden of proving that a particular handset would cause technical harm and therefore should not receive NRA certification;
- 2) Wireless subscribers have the right to use their handsets to access any service, software, application and content available by subscriber imputed commands or instructions. NRAs should expressly state that wireless

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<sup>7</sup> For a more comprehensive examination of this topic see Rob Frieden, *Hold the Phone: Assessing the Rights of Wireless Handset Owners and Carriers*, 69 PITTSBURGH LAW REVIEW, No. 4 (2008) (in production); draft available at: [http://papers.ssrn.com/sol3/cf\\_dev/AbsByAuth.cfm?per\\_id=102928](http://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=102928).

<sup>8</sup> In the United States a federal court ordered the FCC in 1956 to eliminate telephone company tariff restrictions on customers’ rights to attach non-electronic acoustic devices to telephones. See *Hush-a-Phone v. United States*, 238 F.2d 266, 269 (D.C. Cir. 1956). In 1968 the FCC extended the right to include attachment of electronic devices. *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968), recon. denied, 14 FCC 2d 571 (1968).

operators should have an affirmative duty to receive, switch, route and transmit such subscriber keyed commands or instructions; and

- 3) Suppliers of software, applications, services and content accessible via wireless networks have the right to offer them to subscribers subject to a reasonable determination by carriers that such access will not cause technical harm to the carriers' networks. NRAs should reserve the right to mediate and resolve disputes over technical compatibility of any software, applications, services and content accessible via a wireless carrier network.

Additionally NRAs need to exercise vigilance for excessive market consolidation as is occurring in many areas. When wireless carriers acquire market share by buying out competitors consumers have fewer opportunity to "vote with their feet" when dissatisfied with service provided by their existing carrier. Already wireless carriers can engage in "consciously parallel" conduct where they offer roughly the same terms and conditions for service. For example, in the United States no carrier offers a discounted rate for existing or prospective customers who already have a handset available and who do not trigger a subsidy by seeking a new phone.

Lastly NRAs need to force wireless carriers to operate in a more transparent and forthright manner regarding the cost of service. Many wireless carriers have managed to insert into consumers' bills surcharges that appear as a tax or other type of compulsory fee. Without the duty to file tariffs and standard service terms and conditions, some wireless carriers can impose unanticipated charges. When handsets can access a much larger array of ICE services it becomes more essential that wireless carriers fully disclose instances where they offer subscribers superior access to content and preferential access to subscribers for specific content providers. Not all quality of service and price differentials violate a reasonable conceptualization of fairness and neutrality. But on the other hand the

failure to disclose instances of price and quality of service discrimination creates the appearance of impropriety and anticompetitive conduct.

### III. Conclusion

Requiring transparency and fair dealing by carriers providing the underlying transmission capacity for ICE services serves the national interest. Unfortunately the issue of imposing such straightforward requirements has become immersed in a larger debate about how much flexibility ISPs should have to diversify services. The so-called network neutrality debate<sup>9</sup> addresses what constitutes lawful price and service discrimination by

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<sup>9</sup> See Rob Frieden, *Internet 3.0: Identifying Problems and Solutions to the Network Neutrality Debate*, 1 INT'L J. OF COMM., 461 (2007); available at: <http://ijoc.org/ojs/index.php/ijoc/article/view/160/86>; Rob Frieden, *Network Neutrality or Bias?--Handicapping the Odds for a Tiered and Branded Internet*, 29 HASTINGS COMM. & ENT. L.J. No. 2, 171-216 (2007); Brett Frischmann & Barbara van Schewick, *Yoo's Frame and What It Ignores: Network Neutrality and the Economics of an Information Superhighway*, 47 JURIMETRICS J. (forthcoming 2007); Barbara van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J. ON TELECOMM. & HIGH TECH. L. (forthcoming 2007); Barbara A. Cherry, *Misusing Network Neutrality to Eliminate Common Carriage Threatens Free Speech and the Postal System*, 33 N. KY. L. REV. 483 (2006); Bill D. Herman, *Opening Bottlenecks: On Behalf Of Mandated Network Neutrality*, 59 FED. COMM. L.J. 103 (Dec., 2006); Craig McTaggart, *Was The Internet Ever Neutral?*, paper presented at the 34th Research Conference on Communication, Information and Internet Policy, George Mason University School of Law, Arlington, Virginia (rev. Sep. 30, 2006); available at: <http://web.si.umich.edu/tprc/papers/2006/593/mctaggart-tprc06rev.pdf>; Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOM & HIGH TECH L. 141 (2005); available at: <http://ssrn.com/abstract=388863>; J. Gregory Sidak, *A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet*, 2 J. COMP. L. & ECON. No. 3, 349 (2006); Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847 (June, 2006); Adam Thierer, *Are 'Dumb Pipe' Mandates Smart Public Policy? Vertical Integration, Net Neutrality, and the Network Layers Model*, 3 J. Telecomm. & High Tech. L. 275 (2005); Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARVARD J. L. & TECH. (Fall 2005); Christopher S. Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. ON TELECOMM. & HIGH TECH. L. 23 (2004). Mark A. Lemley and Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. Rev. 925 (2001).

ISPs, but opponents have managed to frame the debate as an unlawful attempt to impose common carrier responsibilities. While ISPs do not operate as telecommunications common carriers, wireless radiotelephone companies typically do. NRAs have lawful authority to impose network neutrality obligations on wireless carriers in the carriers' capacity as telecommunications service providers.

NRAs face a regulatory quandary when wireless carriers augment telecommunications with new ICE services. The carriers want to leverage these new services as grounds for elimination of just about any government oversight, particularly in light of the apparent inability of NRAs to subject a single enterprise to more than one regulatory regime. However the onset of new services, which may qualify for classification as something other than a common carriage telecommunications service, does not by itself vitiate or justify elimination of the initial regulatory requirements. NRAs and wireless carriers will need to learn how to operate in an environment where two or more regulatory regimes apply when handsets offer an amalgam of telecommunications, information and video services.

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