

Unleashing the Open Mobile Internet

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INTRODUCTION

Our society increasingly relies on mobile technology while being limited to a handful of Internet service providers (ISPs). Policymakers continue to struggle with how to provide nondiscriminatory Internet access without undermining the financial incentives needed to encourage continued infrastructure development. Applications like streaming media or peer-to-peer (P2P) file sharing consume significantly more Internet resources than a traditional voice over Internet protocol (VoIP) telephone call. In response, Internet providers frequently degrade these bandwidth intensive applications to maximize profit. Many consider this practice discriminatory, believing that each user should be free to run the application of his choice on an equal basis with other users. With few exceptions, Internet users pay the same price to access the Internet regardless of which application they run. Without a mechanism to fairly price each application based on its consumption of Internet resources and value to the consumer, ISPs are incentivized to continue discriminating.

Two developments are unfolding that may provide for nondiscriminatory access while retaining the incentive for Internet infrastructure development. First, the Federal Communications Commission (FCC) has made available a significant amount of bandwidth previously reserved for analog television transmission. Second, multi-mode and cognitive radio technology have advanced to the point where it is now feasible to develop mobile devices that can work with virtually any ISP regardless of the transmission mode or frequency that the ISP supports. These devices may enable consumers to have ad-hoc open mobile Internet access to the ISP of their

choosing. The resulting free market competition will provide non-discriminatory access without unduly depriving ISPs of the economic incentive required to continue providing Internet services.

This Note proposes a new FCC regulation that would require ISPs to offer ad-hoc open mobile access. Section II describes the evolution of the Telecommunications Act of 1996, which regulates most aspects of mobile Internet communications. Section III describes the conflicting goals of providing nondiscriminatory access and maintaining price tiers that incentivize Internet infrastructure development. These disparate goals are irreconcilable without a new paradigm. Sections IV and V describe recent developments that enable a new paradigm and convey the missing link as a new minimally obtrusive FCC regulation. Specifically, Section IV discusses the recent availability of radio spectrum previously reserved for analog television.

Section V describes developments in software-defined radio technology and general industry trends supporting its use in unlicensed spectrum. This technology can effectively exploit newly available spectrum in a way that could alleviate the concerns of nondiscriminatory Internet access. Recent examples of this technology will be highlighted to show that the proposed regulation is pragmatic. Section VI is an analysis of the proposed regulation with anticipated issues and defenses. Section VII concludes this note by showing that the proposed regulation is the only remaining obstacle to enabling a free market solution to mobile Internet access. This regulation will unleash the power of the open mobile Internet so that it will continue to develop with financial incentives for ISPs, nondiscriminatory access for users, and minimum regulatory burden.

DOI: 10.4018/978-1-4666-8239-9.ch084

Historical Context of the Telecommunications Act

In 1934, President Franklin Roosevelt passed the Communications Act of 1934. This act established the FCC, which consolidated authority over radio, telephone, and telegraph operations. The mandate of the FCC was to regulate wire and radio transmissions in a nondiscriminatory manner.

The scope of communications changed significantly when IBM introduced the first electronic computer in 1943 (Brenner, 2006). Building on the introduction of computers, the military developed the ARPANET in 1969 to permit computers to communicate with each other – the genesis for the present day Internet (*Reno v. ACLU*, 1997). In response to the data-processing services that the computer and Internet enabled, the FCC promulgated rules and regulations (Computer II) to distinguish “basic” common carriers of voice from “enhanced” information-service providers (Second Computer Inquiry, 77 F.C.C.2d 384, 387, 1980). Computer II provided a safe harbor exemption from the requirement to provide nondiscriminatory access for enhanced services because the FCC believed such services were not public necessities in contrast to basic voice transmission. A recent case affirmed the distinction between “basic” and “enhanced” services, holding that a cable company was exempt from mandatory regulation under Title II of the Communications Act when transmitting broadband Internet services, even though the company utilized a transmission medium that could also transmit voice (*Nat’l Cable & Telecomms. Assn. v. Brand X Internet Servs.*, 2005). The court affirmed the FCC’s position “that it was unwise to subject enhanced service to [basic] common-carrier regulation given the ‘fast-moving, competitive market’ in which they were offered.”

The Telecommunications Act of 1996 amended the Communications Act of 1934 in response to regional monopolies, which were created following the break-up of AT&T into smaller entities under an antitrust consent decree (*MCI WorldCom*

Commc’ns., Inc. v. Dept. of Telecomm. & Energy, 2004; *EarthLink, Inc. v. F.C.C.*, 2006). These regional monopolies were referred to as “incumbent local exchange carriers” (ILECs), while their competitors were “competing local exchange carriers” (CLECs). The 1996 Act attempted to foster competitive market development by imposing several new ILEC duties (Telecommunications Act, 47 U.S.C. § 251(b)-(c), 2006). ILECs must provide interconnection agreements with CLECs so that CLECs can access the large physical network established by the ILECs (Telecommunications Act, 47 U.S.C. § 251(b)-(c), 2006 and Telecommunications Act, 47 U.S.C. § 251(c)(2), 2006). The ILECs receive reciprocal compensation for the mandated access to their physical networks because it is arguably a constitutional taking of a property right (Candeub, 2004). ILECs must also provide unbundled access to their network, so CLECs can offer service without having to duplicate all of the network elements (Telecommunications Act, 47 U.S.C. § 251(c)(3), 2006). The 1996 Act also facilitated competition by requiring number portability and by permitting CLECs to access “telephone numbers, operator services, directory assistance, and directory listing...” (Telecommunications Act, 47 U.S.C. § 251(b)(3), 2006).

INTERNET ACCESS: A BALANCING ACT

Network Neutrality

“Americans today spend almost as much on bandwidth—the capacity to move information—as [they] do on energy” (Wu, 2008). Americans are in the midst of an information revolution, which a bandwidth cartel, similar to the oil cartel created during the industrial revolution, may constrain. Advocates of network neutrality argue that the Internet is fundamental to the nation’s economic health, and a handful of network providers are unfairly controlling the terms of access. Such

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