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# The mixed blessing of a deregulatory endpoint for the public switched telephone network

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ABSTRACT

Receiving authority to dismantle the wireline public switched telephone network (PSTN) will deliver a mixture of financial benefits and costs to incumbent carriers and also jeopardize longstanding legislative and regulatory goals seeking ubiquitous, affordable and fully interconnected networks. Even if incumbent carriers continue to provide basic telephone services via wireless facilities, they will benefit from substantial relaxation of common carriage duties, no longer having to serve as the carrier of last resort and having the opportunity to decide whether and where to provide service. On the other hand, incumbent carriers may have underestimated the substantial financial and marketplace advantages they also will likely lose in the deregulatory process. Legislators and policy makers also may have underestimated the impact of no longer having the ability to impose common carrier mandates that require carriers to interconnect so that end users have complete access to network services regardless of location.

This paper will identify the potential problems resulting from prospective decisions by National Regulatory Authorities (NRAs), such as the United States Federal Communications Commission (FCC), to grant authority for telecommunications service providers to discontinue PSTN services. The paper also will consider whether in the absence of common carrier duties, private carriers providing telephone services, including Voice over the Internet Protocol (VoIP), voluntarily will agree to interconnect their networks. The paper will examine three recent carrier interconnection issues with an eye toward assessing whether a largely unregulated marketplace will create incentives for carriers to interconnect networks so that consumers will have ubiquitous access to PSTN replacement and other broadband services.

The paper concludes that private carrier interconnection models and information service regulatory oversight may not solve all disputes, or promote universal service public policy goals. Recent Internet interconnection and television program carriage disputes involving major players such as Comcast, Level 3, Fox, Cablevision and Google point to the possibility of increasingly contentious negotiations that could result in balkanized telecommunications networks with at least temporary blockages to desired content and services by some consumers.



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## 1. Introduction

Receiving authority to dismantle the long serving wireline public switched telephone network (PSTN) will deliver a mixture of clearly identifiable benefits, but also underappreciated costs to incumbent carriers.[1] Additionally such authorization will validate a major shift in the scope and reach of government oversight even for basic telecommunications services such as voice telephone service. Regulation will shift from the traditional common carrier model, which requires mandatory interconnection and affirmative efforts to ensure consumers with universal network access,[2] to a private carrier model where market forces drive carrier decisions whether to interconnect with other carriers and what array of services to offer consumers.

In the short run incumbent carriers, particularly ones providing wireline dial up telephone service, will accrue financial and operational gains from the likely substantial relaxation or elimination of traditional common carriage duties. They anticipate reducing operating costs, including reduction in the substantial number of personnel needed to maintain increasingly obsolete local loops that physically link each and every subscriber via a dedicated copper wire. Managers of these carriers appear to anticipate that even if they opt to offer substitute basic telephone services via wireless facilities and the Internet, traditional common carrier regulation can no longer apply. Because they no longer will offer preexisting (legacy) telecommunications services via installed copper wire lines, incumbent carriers will not have to serve as the carrier of last resort compelled to provide service on nondiscriminatory terms and conditions.[3] As discussed in this paper, if obligated to make an explicit classification of any remaining voice telephone services, the Federal Communications Commission (FCC) and other National Regulatory Authorities (NRAs)[4] would have to apply an unregulated service category,[5] because software, riding on top of an unregulated broadband link, will serve as the primary future means for making and receiving telephone calls (FCC, 2002). For example, the FCC classified the underlying broadband traffic delivery medium as an information service, for example, cable modem and digital subscriber line service (DSL). It makes no sense to conclude that voice telephone software enhancements to these information services somehow converts everything back to common carrier telecommunications services.

Notwithstanding the significant benefits in qualifying for eliminated or reduced regulation, incumbent carriers may have underestimated the substantial financial and marketplace advantages they will lose in the deregulatory process. Legislators and regulators also appear confident that marketplace forces will replace regulatory mandates and provide adequate incentives for carriers to maintain all existing network interconnections that collectively provide consumers with ubiquitous access. The possibility exists that absent a common carrier mandate carriers may begin to terminate interconnection agreements, or diversify the terms and conditions for such interconnection much like what has occurred with Internet connections. While voluntary arrangements may substitute for regulator-mandated interconnection, cost averaging and universal service subsidies may not be available to ensure that subscribers in high cost areas will enjoy the same types of network access, often provided at below cost rates. While adopting an Internet type model of carrier interconnection and consumer access will promote efficiency, it may compromise or defeat long standing goals designed to achieve parity of cost and access between end users located in high cost, mostly rural locales and their urban counterparts.

Incumbent carriers often obscure or dismiss as insignificant the substantial privileges and benefits accruing from their current status as telecommunications service providers. Common carrier responsibilities include duties to interconnect with other carriers, provide service on transparent and nondiscriminatory terms and offer some low margin services (Cherry, 2008; Nachbar, 2008; Noam, 1994).[6] But this legal status also guarantees United States wireline and some wireless carriers access to

[1] To discontinue a regulated telecommunications service in the United States, a carrier must file a petition with the Federal Communications Commission pursuant to Sec. 214 of the Communications Act of 1934, as amended. 47 U.S.C. §214 (2010). Telecommunications service is defined as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." 47 U.S.C. §153(43).

[2] Title II, of the Communications Act, 47 U.S.C. §201–276, imposes many regulatory requirements including the duties to provide service on a transparent and nondiscriminatory manner. A common carrier "hold[s] oneself out indiscriminately to the clientele one is suited to serve". Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 525 F.2d 630, 641 (D.C. Cir. 1976). *See also* FCC v. Midwest Video Corp., 440 U.S. 689 (1979) (distinguishing between common carrier access requirements and mandatory carriage of local broadcast television signals by cable television operators).

[3] The Communications Act, specifies that a "telecommunications carrier shall be treated as a common carrier under this chapter only to the extent that it is engaged in providing telecommunications services." 47 U.S.C. §153(44).

[4] This paper examines the FCC and United States case studies, because incumbent carriers in this country have begun to sell off wireline properties in rural locales and have sought legislation that would make it easier to avoid carrier of last resort responsibilities. While these actions may constitute the first wave, so far carriers in other nations have not undertaken similar campaigns.

[5] 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). "Information-service providers, by contrast, are not subject to mandatory common-carrier regulation under Title II, though the Commission has jurisdiction to impose additional regulatory obligations under its Title I ancillary jurisdiction to regulate interstate and foreign communications." National Cable & Telecomm. Ass'n. v. Brand X Internet Servc., 545 U.S. 967, 976, 125 S.Ct. 2688, 2696 (2005). "The Act's definitions, however, parallel the definitions of enhanced and basic service, not the facilities-based grounds on which that policy choice was based, and the Commission remains free to impose special regulatory duties on facilities-based ISPs under its Title I ancillary jurisdiction. In fact, it has invited comment on whether it can and should do so." at the same place 545 U.S. at 996, 125 S.Ct. at 2708.

[6] Telecommunications service providers carriers have "[t]he duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this