

REGULATING INFORMATION PLATFORMS: THE CHALLENGE OF REWRITING COMMUNICATIONS REGULATION FROM THE BOTTOM UP

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ABSTRACT

Communications regulation, as it has evolved since 1934, is ill-suited to the technological realities of convergence among different information and communications platforms. At its core, communications regulation is organized around specific applications and specific distribution technologies. Thus, over-the-air broadcasting is regulated differently than cable services, which are regulated differently than wireline telecommunications services, which are regulated differently than wireless telecommunications services. The evolution of this system is understandable: telephone/telegraph and radio were the dominant means of electronic communication in 1934. As new forms of communications evolved additional statutory provisions were grafted onto the Communications Act of 1934 to address new technologies and the services they provided. Digitization and the rise of Internet Protocol communications has greatly accelerated the pace of convergence, in which communications platforms are becoming capable of hosting many, previously separate, applications. To harness the full potential of this convergence, a wholesale, bottom-up revision of basic communications law is necessary. Such a rewrite must confront needed changes in the institutional relationships between federal, state, and local governments. Economic regulation should be limited to constraining market power that arises either from ownership of essential facilities or from redressing network effects that may “tip” markets toward monopoly. Social regulation should be tightly defined,

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targeted, and achieved through the least-economically distortive means.

INTRODUCTION

Communications regulators have long awaited the phenomenon of the convergence of communications technologies. For decades, policymakers and technologists have talked of a time when a multitude of applications – voice, video, and data – will be offered over multiple communications networks reaching every home and business. Convergence has long offered the promise of bypassing bottlenecks, and the hope that consumers could choose between telephone service over the telephone network, telephone service over the cable network, or telephone service over the airwaves. Likewise, television programming could be delivered over telephone wires, cable wires or through the ether.

Over the last decade, convergence increasingly became technologically possible. Digital television, digital cable, internet telephony, and the internet itself all take a communication, convert it into a series of digital signals, transmit those digital signals between distant points, and then allow a computer at the distant point (whether a PC, TV, telephone, Personal Video Recorder or some other device) to reconstruct the digital bits into high quality copies of the original images, information or sounds. This means that all of our communications transmission media – whether telephone wires, television cables, over-the-air television, or other transmissions over the electromagnetic spectrum – are becoming means to transmit digital bits for a variety of applications.

Despite all the talk of convergence, regulation in the United States has not kept pace. Sponsors of the landmark Telecommunications Act of 1996 (1996 Act)¹ billed it as “unleash[ing] a digital free-for-all” of competition among networks.² While the 1996 Act did do much to open local telephone markets to competition

1. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56. Most, but not all sections of the 1996 Act amended the Communications Act of 1934, 47 U.S.C. §§ 151-612 (1994). Throughout this article, “1996 Act” will refer to provisions of that Act, including both those that amended the Communications Act of 1934 and those that did not. Except as expressly noted, “Communications Act” or “Communications Act of 1934” will refer to that Act, as amended by the 1996 Act. In most cases, references to the Communications Act of 1934 as it stood prior to the 1996 Act address provisions not amended by the 1996 Act. In the rare instance in which this article refers to a pre-1996 provision of the Communications Act that was subsequently changed in 1996, that will be expressly noted.

2. 142 Cong. Rec. H1151 (Feb. 1, 1996) (statement of Rep. Markey).

and to end restrictions such as the cable-telephone cross-ownership ban that had prevented telephone companies from providing cable service and cable companies from providing telephone service in their local territories, the 1996 Act only started the work of reforming our communications laws to truly harmonize the diversity of regulation among information platforms.

Of course, one reaction is to ask: why regulate information platforms at all? This is a good question, and one that needs to be examined rigorously, but it cannot obscure the fundamental reality that, through our existing communications regulations, we already regulate information platforms. Regulation of common carriers and non-common carriers, regulation of cable operators, regulation of wireless carriers and satellite platforms, regulation of over-the-air broadcast radio and television – each is a form of regulation of an information platform. Notwithstanding the fact that these platforms increasingly host the same, competing applications, each platform-specific set of regulations subjects that platform technology to different rules than apply to other platforms. Each set of regulations strikes a different balance among competing regulatory goals, and each makes the platform operator accountable to different government agencies in differing degrees.

What convergence requires is a wholesale, bottom-to-top review of communications regulation, we must begin with asking why we are regulating, i.e., what social values choices lie behind regulation. These choices then must be implemented in a systematic and uniform matter across information platforms. This is not a small job. Moreover, because of the way the Communications Act is structured, no one entity other than the United States Congress has the ability to conduct this review. The Federal Communications Commission (FCC) cannot deregulate areas left by the Communications Act to the states, let alone directly restructure state regulation in those areas. States, on the other hand, do not have control over communications that travel outside their own borders.

Congress has yet to acknowledge that it has a significant role to play in addressing the implications of convergence and the rise of the Internet Protocol for today's regulatory system. Since the enactment of the 1996 Act, neither the Senate Committee on Commerce, Science and Transportation nor the House Committee on Energy and Commerce — the two congressional committees with direct legislative responsibility — has conducted a serious reexamination of current communications law in light of technological changes. Instead, Congress has focused on the

Communications Act at its edges, such as the prohibition against the Bell Operating Companies providing interLATA services before meeting the requirements of the “competitive checklist” in Section 271 of the Communications Act, but not at its core structure. The pace of change over the past six years, makes the start of such a review already long overdue.

This article outlines some of the issues such a comprehensive review would confront. First, Section I reviews the various goals that sector-specific communications regulation has sought to serve. This is important because the question of how and when to regulate must necessarily be informed by why regulation is imposed in the first place. Section II then reviews the different ways in which the Communications Act regulates information platforms today, and how those regulations and the institutional roles of government vary according to the regulatory classification of a particular service. What exists today is “regulation-by-pigeonhole,” such that the most important question in determining the regulatory obligations of a service provider is usually “into what classification does the service fall?” After exploring these pigeonholes in Section II, Section III of this article then looks at three services or forms of offering services that have emerged since the 1996 Act, plus the problem of reforming existing rate designs for competition. Finally, in Section IV, this article reviews potential approaches for harmonizing the regulatory treatment of information platforms, and some of the critical questions that legislators and regulators must confront in redesigning regulation “from the ground up” to truly reflect the realities of technological convergence.

I. FIVE RECURRING REGULATORY POLICY OBJECTIVES

Communications regulation across information platforms historically has pursued five recurring regulatory policy objectives. First, regulation attempts to limit the exercise of significant market power and to facilitate the operation of competitive markets. Limiting market power is best exemplified by rate regulation, as well as unbundling and interconnection requirements and regulations governing standards for the connection of customer premises equipment to the networks.³ Regulators at times

3. See, e.g., 47 U.S.C. § 201(b) (2000) (interstate common carrier rates must be just and reasonable); 47 U.S.C. § 202 (2000) (common carriers cannot unjustly or unreasonably discriminate in charges, practices, classification or services); 47 U.S.C. § 543(b)(1) (2000) (basic cable rates must be reasonable); 47 U.S.C. § 251(c) (2000) (requiring incumbent local exchange carriers (ILECs) to provide unbundled network elements and interconnection); 47 U.S.C. § 549(a) (2000) (requiring that

also will step beyond simply constraining market power to set regulatory requirements that promote the development of a competitive marketplace, such as when the FCC required all television receivers to receive UHF as well as VHF.⁴ Second, regulation seeks to protect consumers against perceived marketplace abuses that go beyond simply the rate charged or monopolistic practices. Examples of this type of regulation include anti-slamming rules, privacy rules, and labeling regulations for television sets.⁵ Third, regulators intervene to promote a multiplicity of speakers, including those who do not own communications facilities. Notable examples are “must-carry” and other mandatory carriage requirements, the general requirement that common carriers transmit messages without regard to content, and various carrier and media ownership limitations or prohibitions.⁶ Fourth, communications regulation has pursued univer-

cable navigation devices be available from suppliers other than the cable operator); 47 U.S.C. § 544a (2000) (consumer electronics equipment compatibility rules); *see also* 47 C.F.R. § 68 (2000) (telephone equipment standards).

4. *See* 47 C.F.R. § 15.117 (2000) (the all channel receiver rule).

5. *See, e.g.*, 47 U.S.C. § 222 (2000) (privacy of customer proprietary network information (CPNI)); 47 U.S.C. § 227 (2000) (restrictions on the use of telephone autodialer equipment and telemarketing); 47 U.S.C. § 228 (2000) (regulation of carriers offering pay-per-call services); 47 U.S.C. § 258 (2000) (prohibition against unauthorized changes in subscriber carrier selections).

6. *See* 47 U.S.C. § 202 (2000) (prohibiting common carriers from engaging in unjust or unreasonable discrimination, including making or giving any undue or unreasonable preference, or impose any undue or unreasonable prejudice or disadvantage, to any person, class or persons or locality); 47 U.S.C. §§ 534-535 (2000) (the “must-carry” requirements requiring that cable operators retransmit commercial and non-commercial local broadcast signals); 47 U.S.C. § 531 (2000) (requiring cable channels be set aside for public, educational or governmental use); 47 U.S.C. § 532 (2000) (the “leased access” provisions, which require a limited number of cable channels to be provided to third parties for commercial use); 47 C.F.R. § 76.501 (2000) (the cable-broadcast cross ownership rule), *vacated and remanded for further reconsideration*, Fox Television Stations, Inc., v. FCC, 280 F.3d 1027 (D.C. Cir. 2002) [hereinafter Fox v. FCC]; 47 C.F.R. § 73.3555(d) (2000) (the broadcast-newspaper cross ownership rule).

There has been substantial litigation over the extent to which the First Amendment permits the Commission to enact regulations to promote multiplicity of speakers. *See* Turner Broad. Sys. v. FCC, 512 U.S. 622 (1994) [hereinafter Turner I]; Turner Broad. Sys. v. FCC, 520 U.S. 180 (1997) [hereinafter Turner II] (upholding the must-carry requirements against First Amendment challenges); FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 802 (1978) (upholding the newspaper-broadcasting cross-ownership rule stating, “[t]he regulations are a reasonable means of promoting the public interest in diversified mass communications; thus they do not violate the First Amendment rights of those who will be denied broadcast licenses pursuant to them.”); Fox v. FCC, *supra* note 6 (rejecting constitutional challenges to the newspaper-broadcast cross-ownership rule and the cable-broadcast cross-ownership rule, but finding that the FCC had insufficiently justified both rules and vacating the cable-broadcast cross-ownership rule); Time Warner Entm't Co. v. FCC, 240 F.3d 1126 (2001) [hereinafter Time Warner II] (holding that the national limit on aggregate cable system ownership violated the First Amendment).

sal service. Universal service policies fall into two groups: universal access to information, such as through “free-over-the-air” broadcast media; and the universal capability to engage in ubiquitous, real-time communications, such as over the telephone network. Fifth, regulators have adopted rules to support a number of other miscellaneous societal objectives, such as requirements that law enforcement have wiretapping capabilities, 911 service mandates, and rules to ensure that people with disabilities can use communications services.⁷

It is important to understand that these are all separate objectives, although the policy issues surrounding their implementation may overlap and a given rule may serve more than one goal. For example, media ownership restrictions in part serve the goal of limiting the exercise of market power. However, many of these rules also reflect a separate policy objective to ensure a multiplicity of speakers, even where not strictly required to constrain market power. To the extent these ownership rules limit otherwise efficient forms of economic organization, they impose costs and represent a social values choice to incur those economic costs in order to promote speaker multiplicity. Thus, communications regulation has, in some areas, pursued objectives other than those traditionally embraced by antitrust law.

II. THE COMMUNICATIONS ACT OF 1934: REGULATION BY “PIGEONHOLE”

The Communications Act of 1934 (the “1934 Act”) does not pursue these regulatory objectives through a uniform regulatory framework, but instead through an ad hoc scheme of regulation by service “pigeonhole.” The 1934 Act assigned regulatory responsibilities and rights, and thereby balanced these five general policy objectives, according to various statutory and regulatory classifications. In order to understand the challenges posed by the rise of digital technology and the Internet, it is important to review these classifications and the walls that Congress, the FCC and the states have attempted to erect between these classifications.

7. I have omitted the goal of managing the electromagnetic spectrum because it relates only to a subset of information platforms – those that use the electromagnetic spectrum over the open airwaves. Many of the issues with respect to spectrum policy, however, embody these same five regulatory objectives.

A. *Common Carriers*

One of the most fundamental regulatory pigeonholes in information platform regulation is “common carrier.” The fact that the 1934 Act focused on common carrier services, rather than simply any transmission of information by wire or radio, reflects the law’s origins and the fact that, in the late nineteenth century, railroads had been subject to price and service regulation because of their new monopoly power coupled with the view that they “‘exercise a sort of public office’ in the duties which they perform.”⁸

The 1934 Act defined a “common carrier” circularly, that is, as “any person engaged as a common carrier for hire.”⁹ Prior to the 1996 Act, courts provided additional guidance on when a service would be a common carrier service. In *NARUC I*, the United States Court of Appeals for the D.C. Circuit announced a two-prong test for common carriage.¹⁰ First, an entity may be a common carrier if the public interest *requires* that a proposed facility be operated as a common carrier. Second, an entity may be a common carrier if it holds itself out as offering service to the public indifferently.¹¹ A provider that made “‘individualized decisions, whether and on what terms to serve’” was a private carrier, not a common carrier.¹²

Although this sounds like a world of difference, the line between offering service indifferently to all and making individualized decisions is exceedingly thin. The *NARUC I* court noted, “[t]he cases make clear both that common carriers need not serve the whole public, and that private carriers may serve a significant clientele, apart from the carrier himself.”¹³ The courts have said that “the public” may be a very small class of the public, within which service is offered to all potential users.¹⁴ For contract tariffs, the “public” may, in result, be a single user, even if the offering is theoretically available to all.¹⁵

8. Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC, 525 F.2d 630, 640 (D.C. Cir. 1976), *cert. denied*, 425 U.S. 992 (1976) [hereinafter *NARUC I*].

9. 47 U.S.C. § 153(10) (1994).

10. *NARUC I*, *supra* note 8, at 640-42.

11. *Id.* at 640; *see also* Virgin Island Tel. Co. v. FCC, 198 F.3d 921, 926 (D.C. Cir. 1999).

12. AT&T Submarine Cable Sys., *Memorandum Opinion and Order*, 13 F.C.C.R. 21585, 21588 (1998).

13. *NARUC I*, *supra* note 8, at 642.

14. *See* Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC, 533 F.2d 601, 608 (D.C. Cir. 1976).

15. Indeed, with mandatory detariffing of long distance contract tariffs, it is not even clear the line still exists as these services for sophisticated customers are now offered only pursuant to individualized contracts. 47 C.F.R. § 61.19 (2000) (Al-

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When Congress enacted the 1996 Act, it did nothing to address the muddle surrounding this critical definition of “common carrier.” For reasons that are not entirely clear, Congress elected to add to the Communications Act a parallel set of definitions of “telecommunication,” “telecommunications service” and “telecommunications carrier.” Under the 1996 Act definition, a “telecommunication” is “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or the content of the information as sent and received.”¹⁶ The key distinction drawn in this definition is that there be no change in form or content of the information, which, as we will see, helps to draw the line between “telecommunications” and another pigeonhole, “information services.” A “telecommunications service” is “the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.”¹⁷ This definition was extremely close to the D.C. Circuit’s *NARUC I* test for common carriage, and the FCC subsequently found “telecommunications services” and “common carrier services” to be synonymous.¹⁸ Completing these new definitions, a “telecommunications carrier” is simply “any provider of telecommunications services.”¹⁹

In addition, the law makes clear that a service does not become a common carrier service merely through guilt-by-association. The 1996 Act states that a telecommunications carrier “shall be treated as a common carrier . . . only to the extent that it is engaged in providing telecommunications services.”²⁰ This codified pre-1996 Act court decisions which held that a common carrier’s service was not subject to common carrier regulation merely because it was offered by an entity that was, with respect to other services, a common carrier.²¹ Accordingly, the actual

though mandatory detariffing in theory exists only for non-dominant long distance carriers, virtually all long distance carriers, including all the major carriers, are classified as non-dominant).

16. 47 U.S.C. § 153(43) (2000).

17. 47 U.S.C. § 153(46) (2000).

18. Inquiry Concerning High Speed Access to the Internet Over Cable and Other Facilities, *Declaratory Ruling and Notice of Proposed Rulemaking*, 17 F.C.C.R. 4798, 4831 (2002) (collecting citations to FCC decisions) [hereinafter Cable Modem Classification Order].

19. 47 U.S.C. § 153(44) (2000). The definition of “telecommunications carrier” also expressly excludes aggregators of telecommunications services, as defined under Section 226. *Id.*

20. *Id.*

21. *See, e.g.,* Southwestern Bell Tel. Co. v. FCC, 19 F.3d 1475, 1481 (D.C. Cir. 1994).

service being provided must be a telecommunications service (i.e., it must be offered to all users indifferently) before a service becomes subject to the benefits and burdens of common carrier status.

The Communications Act conveys significant rights and obligations upon common carriers. Among the most significant rights are the right to request interconnection and obtain unbundled network elements, collocation and discounted resale from incumbent local exchange carriers under Section 251 of the Communications Act (and the corresponding duty of the incumbent LECs to provide elements and interconnection), the right to be free from state and local barriers to entry under Section 253, and the right to obtain pole attachments and access to conduits at regulated rates under Section 224.²² A provider must also be a common carrier to receive most forms of explicit universal service support.²³

At the same time, the Communications Act subjects common carriers to significant regulatory requirements with respect to interstate and international services. First and foremost among these are the duties to carry traffic without unreasonable discrimination and without undue preference or prejudice, the duty to furnish service upon reasonable request, and the duty to offer service on rates, terms and conditions that are just and reasonable.²⁴ In addition, common carriers must, *inter alia*, contribute to explicit federal universal service mechanisms,²⁵ install network equipment meeting the requirements of the Communications Assistance to Law Enforcement Act (CALEA),²⁶ meet

22. See *Nat'l Cable & Telecomms. Assoc., Inc. v. Gulf Power*, 534 U.S. 327 (2002). Pole attachments are also available to cable television systems. Notably, an information service not provided by a cable television system or a telecommunications carrier would likely not be entitled to pole attachment rights.

23. See 47 U.S.C. § 254(e) (2000); 47 U.S.C. § 214(e)(1) (2000). As used here, "explicit universal service support" refers to the payments to universal service providers from the federal universal service fund established by the FCC to implement Section 254 of the Act. FCC decisions also discuss "implicit support", which is a means of generating subsidies for universal service between different users of the telecommunications network by manipulating the rates charged to different groups of customers. See *Texas Office of Pub. Util. Counsel v. FCC*, 183 F.3d 393, 406 (5th Cir. 1999), *cert. granted*, *GTE Serv. Corp. v. FCC*, 530 U.S. 1213 (2000), *cert. dismissed*, *GTE Serv. Corp. v. FCC*, 531 U.S. 975 (2000).

24. See 47 U.S.C. §§ 201-202 (2000).

25. 47 U.S.C. § 254(d) (2000). In addition to explicit contributions to the explicit federal universal service mechanisms, a carrier may contribute to maintaining universal service by paying rates that contain implicit universal service subsidies. See *supra* note 23. Implicit subsidies are paid by ratepayers who pay a subsidizing rate, regardless of whether that ratepayer is a common carrier, a private carrier or an end user.

26. 47 U.S.C. § 1002 (2000).

statutory requirements for disabilities access,²⁷ interconnect with other carriers²⁸ and obtain FCC approval prior to exiting a market.²⁹ Dominant interstate common carriers are required to file tariffs, with adequate cost-support for proposed rates.³⁰ Facilities-based common carriers are also currently required to unbundle basic common carrier services from their enhanced services, offering the basic services separately to others, including other providers of information services.³¹ The FCC has also required common carriers to “expand” capacity where technically feasible and economically reasonable in order to host alternative providers.³²

The Communications Act further subdivides the common carrier pigeonhole into interstate and intrastate common carriers. This jurisdictional split is entirely geographic, delineated by the originating and terminating points of a call, without any regard to the network functions being provided.³³ As a consequence, federal and state governments each have regulatory control over a part of, but not the entirety of, both local and long distance telephone networks. A provider’s interstate application may be subject to different regulation and be offered at different prices than that provider’s otherwise identical intrastate service.

27. 47 U.S.C. § 255 (2000).

28. 47 U.S.C. §§ 201, 251 (2000).

29. 47 U.S.C. § 214 (2000).

30. 47 U.S.C. §§ 203-205 (2000); *see* 47 CFR § 61.3(q) (2000). A dominant interstate carrier is a carrier that possesses market power, which the FCC defines as “the ability to raise prices by restricting output” and as “the ability to raise and maintain price[s] above the competitive level without driving away so many customers as to make the increase unprofitable.” Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefore, *Fourth Report and Order*, 95 F.C.C.2d 554, 558 (1983) [hereinafter *Fourth Report and Order*] (internal citations omitted), *vacated* AT&T v. FCC, 978 F.2d 727 (D.C. Cir. 1992), *cert. denied*, MCI Telecomms. Corp. v. AT&T, 509 U.S. 913 (1993).

31. Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry), *Final Decision*, 77 F.C.C.2d 384, 475 (1980) [hereinafter *Computer III*]. As discussed in greater detail below, the FCC has initiated a Notice of Proposed Rulemaking seeking comment on whether this requirement should be abolished. Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Universal Service Obligations of Broadband Providers; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review — Review of Computer III and ONA Safeguards and Requirements, *Notice of Proposed Rulemaking*, 17 F.C.C.R. 3019 (2002) [hereinafter *Broadband Internet Access NPRM*].

32. *See* Tel. Co. – Cable Television Cross-Ownership Rules, *Second Report and Order*, 7 F.C.C.R. 5781, 5797-8 (1992); Tel. Co.—Cable Television Cross-Ownership Rules, *Third Report and Order*, 10 F.C.C.R. 244, 258-9, 262 (1994).

33. *See* Teleconnect Co. v Bell Tel. of Penn., *Memorandum Opinion and Order*, 10 F.C.C.R. 1626 (1995); Petition for Emergency Relief and Declaratory Relief Filed by BellSouth Corp., *Memorandum Opinion and Order*, 7 F.C.C.R. 1619 (1992).

With a few exceptions, most notably the provision of unbundled network elements and interconnection negotiated or arbitrated under Section 252 of the Communications Act and wireless mobile services, Section 2(b) of the Act maintains a strong division of responsibility between the state regulation of intrastate services and the federal regulation of interstate services.³⁴

The states regulate the operations of intrastate common carriers, which, it turns out, is very different than saying that states regulate the intrastate *operations* of common carriers.³⁵ Three key areas of state regulation stand out. First, states control the process of granting franchises and other use of public and private rights-of-way in the state. In some instances, states have granted incumbent telephone companies statewide franchises, but leave newer entrants to negotiate with local governments.³⁶ Some states allow public utilities, including state-certified communications common carriers, to have access to public rights-of-way along highways, or to bring condemnation proceedings against private property owners in order to obtain rights of way.³⁷

A second key area of state regulation is control of common carrier entry. Although Section 253 of the Communications Act, another provision added by the 1996 Act, purports to eliminate state and local legal barriers to entry, the FCC has not interpreted it to eliminate state requirements for certification of common carriers prior to entry. Indeed, the 1996 Act actually reinforced state entry control by creating an exemption from many local competition requirements for small incumbent telephone companies unless and until the state public utilities commission ("PUC") terminates the exemption.³⁸

34. 47 U.S.C. § 152(b) (2000). The United States Court of Appeals for the Eighth Circuit famously characterized the interstate/intrastate jurisdictional fence as "hog tight, horse high, and bull strong." *Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 800 (8th Cir. 1997), *aff'd. in part, rev'd in part*, *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999). The FCC can, at times, preempt state regulation. The core standards are set forth in *Louisiana Pub. Serv. Comm. v. FCC*, 476 U.S. 355 (1986).

35. Many operations that occur solely within a single state can be classified as interstate if they handle interstate traffic. The usual convention for special access or private line facilities is that if the facility carries more than a *de minimis* amount of interstate traffic – defined as ten percent – the facility is classified as interstate and can be purchased from interstate tariffs. *MTS and WATS Market Structure, Memorandum Opinion and Order*, 97 F.C.C.2d 682, 711 (1983).

36. See *TCG Detroit v. City of Dearborn*, 206 F.3d 618 (6th Cir. 2000) (Section 253 does not preclude a city from imposing a franchise fee on a CLEC, when the ILEC was charged no fee under a previous statewide franchise).

37. See, e.g., *Cal. Pub. Util. Code § 7901* (1994) (granting telephone corporations permission to construct lines along public roads or across any waters or lands).

38. 47 U.S.C. § 251(f) (2000).

The third key area of state control is over rate design for retail rates. Because states regulate approximately three-quarters of the costs of connecting the subscriber to the local switching office (called the “local loop”), state rate design policies for incumbent local exchange common carriers shape cost recovery in the entire market. Historically, state regulators have engaged in a number of non-cost based rate design practices, including favoring residential consumers over business consumers, setting local service rates in proportion to the number of subscribers within the local calling area instead of in proportion to the cost of service (called “value-of-service” pricing), and recovering some of the costs of the local loop from other services, including long distance and vertical features.³⁹

The FCC has broad deregulatory powers with respect to interstate common carriers’ duties under the 1996 Act, but it has no express authority to directly deregulate intrastate common carriers.⁴⁰ Thus, a long distance company today that is completely price deregulated and generally prohibited from filing tariffs at the interstate level, may still be subject to detailed intrastate regulation, even when both markets are substantially competitive. Because of the limitations imposed by Section 2(b) of the Communications Act, the FCC cannot generally preempt an intrastate regulation that does not “prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.”⁴¹

B. Non-Common Carrier Telecommunications Providers

By defining a certain set of providers as “common carriers,” the Communications Act necessarily creates a second pigeonhole of non-common or private providers of telecommunications. These are providers that transport communications for hire, but do not hold themselves out as common carriers. They are generally providers that select with whom they will deal, and provide services that are tailored to individual users, subject to contracts that are medium to long term with a stable customer base.⁴²

39. These examples are from the U.S. General Accounting Office most recently documented subsidy practices. GENERAL ACCOUNTING OFFICE, TELECOMMUNICATIONS: FEDERAL AND STATE UNIVERSAL SERVICE PROGRAMS AND CHALLENGES TO FUNDING 14 (February 2002), available at <http://www.gao.gov/new.items/d02187.pdf> (last visited Aug. 28, 2002).

40. See 47 U.S.C. § 160 (2000).

41. 47 U.S.C. § 253(a) (2000).

42. See Norlight Request for Declaratory Ruling, *Declaratory Ruling*, 2 F.C.C.R. 132 (1987).

Non-common carrier providers of telecommunications are not wholly free of regulation. Most significantly, using its discretionary authority under Section 254(d) of the Communications Act, the FCC requires providers of private telecommunications to contribute to federal universal service mechanisms.⁴³ This universal service contribution requirement does not, however, extend to telecommunications that an entity furnishes to itself in order to provide an “information service.”⁴⁴ In some instances, the FCC has also imposed obligations on non-common carriers through license conditions.⁴⁵

Non-common carriers do not receive many of the rights of common carriers. For example, a non-common carrier is not protected under Section 253 of the Communications Act against state and local laws creating barriers to entry.⁴⁶ A non-common carrier cannot request state-arbitrated interconnection agreements under Section 252 of the Communications Act. Similarly, Section 224 limits its restrictions on utility pricing of pole attachments to attachments “by a cable system or any telecommunications carrier.”⁴⁷ Where the non-common carrier is not otherwise a “cable system” or a common carrier with respect to other services provided using the same attachment, it likely lies outside the scope of Section 224’s right to pole attachments. In addition, there is no clear preclusion of state regulation of non-common carriers, and so some states regulate non-common carrier services.⁴⁸

43. See Fed.-State Joint Bd. on Universal Serv., *Report and Order*, 12 F.C.C.R. 8776, 8797 (1997), *aff’d sub nom.*, Texas Office of Pub. Util. Counsel v. FCC, 183 F.3d 393 (5th Cir. 1999), *cert. granted*, GTE Serv. Corp. v. FCC, 530 U.S. 1213 (2000), *cert. dismissed*, GTE Serv. Corp. v. FCC, 531 U.S. 975 (2000).

44. See *id.* at 8822-3; see also Federal-State Joint Board on Universal Serv., *Report to Congress*, 13 F.C.C.R. 11501, 11508 (1998) [hereinafter Stevens Report].

45. See, e.g., Telefonica SAM USA, Inc., 15 F.C.C.R. 14915, 14931 (Int’l Bur. 2000) (“*Sam-1 License*”) (imposing, *inter alia*, resale and access to backhaul requirements); Australia-Japan Cable (Guam) Ltd., 15 F.C.C.R. 24057, 24071 (Int’l Bur. 2000) (“*AJC License*”) (imposing *inter alia* a requirement of guaranteed direct interface access to the cable network interface and the ability to collocate equipment on commercially reasonable and nondiscriminatory terms at the cable stations).

46. See 47 U.S.C. § 253(a) (2000). Although Section 253(a) does not specifically reference telecommunications carriers, it limits its protection to providers of “telecommunications service[s].”

47. Nat’l Cable Television Ass’n v. Gulf Power, 122 S. Ct. 782, 792 (2002) (quoting 47 U.S.C. § 224(d)(3) (2000)).

48. California, for example, requires all telephone corporations, whether or not offering common carrier services, to obtain a Certificate of Public Convenience and Necessity from the California PUC before constructing a line. Cal. Pub. Util. Code § 1001 (1994). See also James H. Lister, *The Rights of Common Carriers and the Decision Whether to be a Common Carrier or a Non-Regulated Communications Provider*, 53 FED. COMM. L.J. 91, 114 (2000).

C. *Information (or Enhanced) Service Providers*

This brings us to the next regulatory pigeonhole: information services. The Communications Act defines an “information service” as the “offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing. . . .”⁴⁹ Before the 1996 Act added this definition, the FCC tried to cope with developing technology in communications by articulating a distinction between “basic” and “enhanced” services. In creating its definition of “information services,” Congress borrowed heavily from the prior definition of “enhanced” services, such that these terms are congruent when applied to services offered by common carriers.⁵⁰ Most significantly, the FCC ruled that the category of information services is mutually exclusive from the category of common carrier (or telecommunications) services.⁵¹ If a service is an information service, it cannot also be a common carrier service, and vice versa.

In drawing the line between information (or enhanced) services and common carrier (or basic) services when the user is not obviously accessing a computer database, Congress and the FCC focus on whether there is a “change in the form or content of the information as sent and received.”⁵² If there is a “net protocol conversion,” the FCC will consider that service to be an enhanced or information service.⁵³ If there is no net protocol conversion

49. 47 U.S.C. § 153(20) (2000).

50. The subtle distinction is that an “information service” may be provided by a non-common carrier, while an enhanced service is an information service that is provided by a common carrier.

51. See Stevens Report, *supra* note 44, at 11520; *but see* AT&T Corp v. City of Portland, 216 F.3d 871, 878 (9th Cir. 2000) (stating in *dicta* that the transmission of cable Internet service over cable broadband facilities is a “telecommunications service” under the Communications Act). To be precise, an information service is not, however, mutually exclusive from “telecommunication” (as distinguished from a “telecommunications service”) because a necessary component of the information service is that it is offered “via telecommunications.”

52. 47 U.S.C. § 153(43) (2000). See also Computer II, *supra* note 31, at 421-22 (net protocol conversion). Some uses of a computer database may not be sufficient to classify a service as an information service. In order to permit the Bell Companies to offer some services that used database access, such as speed dialing, call forwarding, computer-provided directory assistance, call monitoring, caller ID, call tracing, call blocking, call return, repeat dialing and call tracking, the Commission has classified these services as “adjunct-to-basic” and allowed them to be offered as if they were basic services. See N. Am. Telecomms. Ass’n; Petition for Declaratory Ruling, *Memorandum Opinion and Order*, 101 F.C.C.2d 349, 358-361 (1985). As such, they have not been considered enhanced services. On the other hand, the Commission has not had to determine whether these would be information services if offered by a company other than a Bell Company.

53. Computer II, *supra* note 31, at 432.

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and there is otherwise no access to computer databases or other information, then the service will be a telecommunication that can be offered through either private carriage or common carriage.

Contrary to a sometimes-prevalent myth, this line between telecommunications services and information services is not a voice/data or circuit/packet distinction. The FCC has found certain voice services to be enhanced, such as voicemail, and certain data or packet services to be basic, common carrier services, such as frame relay and ADSL transport.⁵⁴ When the Commission considered the regulatory classification of Internet access, it viewed Internet access as an information service because of the access to stored databases, which does not directly translate to a carve-out from telecommunications regulation (common carrier or private) for all Internet Protocol services.⁵⁵

Falling into the information service pigeonhole has a number of significant consequences. Because an information service provider is not a common carrier, it is not subject to the Communications Act's common carrier obligations as well as other federal statutory obligations on common carriers such as CALEA. Information service providers are considered end-users under the interstate access charge system, so they pay end user charges rather than carrier charges, and therefore are not required to pay the per minute fees that long distance carriers are charged for originating or terminating a long distance call on a local network.⁵⁶ Information service providers also do not contribute to the explicit federal universal service fund based on their information service revenues.⁵⁷

The fact that an information service provider is not a common carrier means that it is not directly entitled to interconnection with common carriers, it cannot purchase unbundled network elements, it cannot directly obtain access to poles and conduits on regulated terms and conditions, and it has no federal

54. Indep. Data Communications Mfrs. Ass'n, Inc. Petition For Declaratory Ruling, *Memorandum Opinion and Order*, 10 F.C.C.R. 13717 (1995); GTE Tel. Operating Cos., *Memorandum Opinion and Order*, 13 F.C.C.R. 22466 (1998).

55. See Stevens Report, *supra* note 44, at 11536-7.

56. See Access Charge Reform, *First Report and Order*, 12 F.C.C.R. 15982, 16131-2 (1997), *aff'd sub nom.* Southwestern Bell Tel. Co. v. FCC, 153 F.3d 523 (8th Cir. 1998).

57. See Stevens Report, *supra* note 44, at 11508. In its *Broadband Internet Access NPRM*, the FCC has sought comment on "whether broadband Internet access providers that supply last-mile connectivity over their own facilities should be required to contribute to universal service based upon their self-provisioning of telecommunications." *Broadband Internet Access NPRM*, *supra* note 31, at ¶ 74.

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statutory protection against state and local barriers to entry.⁵⁸ In order to obtain necessary interconnection and other facilities, the Internet service provider must purchase facilities from a common carrier that has already obtained the necessary rights or elements.

It is not correct to assume, however, that information service providers are wholly unregulated. The FCC has consistently found that information services come within its regulatory jurisdiction, although it has generally chosen not to enact comprehensive regulation using that authority.⁵⁹ In two notable instances, the FCC has asserted its Title I authority to impose regulations: the imposition of merger conditions on AOL-Time Warner regarding Instant Messaging and Advanced IM-based high-speed services, and the requirement that voicemail and interactive menu services be accessible to people with disabilities.⁶⁰ Moreover, the United States Court of Appeals for the Ninth Circuit held that the FCC cannot preempt state regulation of intrastate information services.⁶¹ Accordingly, to the extent there remains any intrastate information service that can be separated from the interstate information service, those separable intrastate services remain subject to state regulation.⁶²

D. Commercial Mobile Services

Commercial mobile service (also known as commercial mobile radio service or "CMRS") providers are yet another category comprised most significantly of wireless telephone and paging providers. A commercial mobile service is any mobile service

58. See 47 U.S.C. § 224 (2000) (pole attachments); 47 U.S.C. § 251(c) (2000) (interconnection, unbundled network elements, resale and collocation for "telecommunications carriers"); 47 U.S.C. § 253(a) (2000) (preempting requirements that prohibit or have the effect of prohibiting the ability of an entity to provide "telecommunications service.")

59. See Computer II, *supra* note 31, at 432-33.

60. Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, *Report and Order and Further Notice of Proposed Rulemaking*, 16 F.C.C.R. 6547, 6610 (2001) [hereinafter AOL-Time Warner Merger Order]; Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecomm. Act of 1996, *Report and Order and Further Notice of Proposed Rulemaking*, 16 F.C.C.R. 6417, 6457 (1999) (extending Title I jurisdiction to customer premises equipment and information services provided by non-common carriers). The FCC recently sought comment on regulating wireline broadband Internet access under Title I, rather than under Title II. Broadband Internet Access NPRM, *supra* note 31, at ¶ 50.

61. *California v. FCC*, 905 F.2d 1217, 1239-1242 (9th Cir. 1990) (holding 47 U.S.C. § 152(b) (2000) precludes the FCC from preempting state regulation of intrastate enhanced services).

62. See *Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 375 n.4 (1986).

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“that is provided for profit and makes interconnected service [with the public switched telephone network] available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public. . . .”⁶³ Again, “the public” is not statutorily defined.

Although CMRS providers are subject to common carrier obligations such as the requirement to comply with CALEA and to contribute to federal universal service, they are specifically exempted from other regulations that would otherwise apply to common carriers. Most significantly, the Communications Act expressly preempts all rate and entry regulation of CMRS providers by state and local governments. As such, a CMRS provider does not have to obtain state certifications or to file state tariffs.

CMRS operators are not free from state and local authority, however. In the first instance, CMRS operators usually need local zoning approvals in order to erect towers. CMRS operators can be subject to state and local rights-of-way fees, provided that they actually use public rights-of-way.⁶⁴ States can also require CMRS operators to pay into state universal service funds.⁶⁵

E. Cable Services

Another relevant statutory pigeonhole is the definition of cable services. When cable television first emerged, it presented a regulatory conundrum: could it be regulated, and if so under what authority? Cable transmission of television programming itself was not a common carrier service. Moreover, it did not require spectrum licenses. The FCC’s first response was to create a set of regulations that it justified as “reasonably ancillary to the effective performance of the Commission’s various responsibilities for the regulation of television broadcasting.”⁶⁶ In 1984, Congress amended the Communications Act to add a separate title to govern cable services, Title VI. Under this new title, cable services are not common carrier services, but they are required

63. 47 U.S.C. § 332(d)(1) (2000). “Interconnected service” is defined in 47 U.S.C. § 332(d)(2) (2000) as “service that is interconnected with the public switched network.”

64. *Cf.* AT&T Communications of the Southwest v. City of Austin, 42 F. Supp. 2d 708 (W.D. Tex. 1998), *vacated as moot*, 235 F.3d 241 (5th Cir. 2000) (District Court enjoined enforcement of a local franchising ordinance against a CLEC that did not place facilities in public rights of way, but only purchased unbundled network elements).

65. *See* Petition of Pittencrieff Communications, Inc. for Declaratory Ruling Regarding Preemption of the Texas Pub. Util. Regulatory Act of 1995, *Memorandum Opinion and Order*, 13 F.C.C.R. 1735 (1997).

66. *United States v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968).

to carry channels of particular public interest that they might not otherwise have carried, and they face certain content and other restrictions more commonly associated with broadcast regulation.

The Communications Act defines a cable service as “(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service.”⁶⁷ “Video programming” is “programming provided by, or generally considered comparable to programming provided by, a television broadcast station.” “Other programming service” is “information that a cable operator makes available to all subscribers generally.”⁶⁸

The definition of “cable service” is significant because cable services have long been viewed as proprietary networks, with the cable operator in control of the content offered to the customer, subject only to limited mandatory carriage obligations.⁶⁹ This makes cable service very different from common carrier service, for which the most fundamental obligation is to carry all communications without preference or prejudice. The Communications Act therefore takes great pains to try to specify when a service is subject to cable regulation and when it is subject to common carrier regulation. These delineations, however, are stated as conclusions based on regulatory classification. Section 621(c) of the Communications Act provides, for example, that “[a]ny cable system shall not be subject to regulation as a common carrier or utility by reason of providing any *cable service*.”⁷⁰ Section 651(b) states, “A local exchange carrier that provides *cable service* . . . shall not be required, pursuant to subchapter II of this chapter [Title II], to make capacity available on a nondiscriminatory basis to any other person for the provision of cable service directly to subscribers.”⁷¹ As we will discuss in the next section, the fact that these lines are drawn through legal conclusions sets the stage for the debate of the proper regulatory classification of cable modem services.

The distinction between cable service and common carrier service also dictates which regulator is in charge. Although the Communications Act sets the general framework for regulation, the key regulatory player with respect to cable services is the

67. 47 U.S.C. § 522(6) (2000).

68. 47 U.S.C. § 522(20) (2000); 47 U.S.C. § 522(14) (2000).

69. See Turner II, *supra* note 6.

70. 47 U.S.C. § 541(c) (2000) (emphasis added).

71. 47 U.S.C. § 571(b) (2000) (emphasis added).

franchising authority because federal law *prohibits* an entity from providing cable service without obtaining a franchise.⁷² Moreover, Section 622 of the Communications Act allows the franchising authority to charge a franchise fee of up to “5 percent of such cable operator’s gross revenues derived . . . from the operation of the cable system to provide cable services.”⁷³ In addition, although most cable services are rate deregulated, the local franchising authority still regulates a very basic service package, pursuant to FCC rules.⁷⁴ By contrast, the FCC shares regulatory power over common carriers with the states, with the states controlling local service entry and rates.

F. Network-Delivered Video Programming

Section 651 of the Communications Act expressly outlines four different ways in which a common carrier, or anyone else, can deliver video programming (i.e. programming comparable to that provided by a broadcast television station) to subscribers, and how the applicable regulatory scheme varies expressly by transmission mode. There is probably no better single illustration of regulation by pigeonhole than Section 651.

Section 651(a)(1) provides that a common carrier or any other person providing video programming to subscribers using radio communication is subject only to the provisions of Title III of the Act (governing users of radio spectrum), but not to the provisions of Title VI.⁷⁵ If the provider carries video programming to subscribers on a common carrier basis, then the provider is subject only to the requirements of Title II (governing common carriers).⁷⁶ If the provider is neither a radio-based system nor providing service on a common carrier basis, then it can elect to be an Open Video System (OVS), or a cable system,⁷⁷ and Title

72. See 47 U.S.C. § 541(b) (2000).

73. 47 U.S.C. § 542(b) (2000).

74. See 47 U.S.C. § 543 (2000). Cable operators can be relieved of franchising authority regulation of basic service prices if they are subject to “effective competition.” *Id.*

75. Section 652’s prohibition on buy-outs also remains applicable. See 47 U.S.C. § 572 (2000).

76. Again, Section 652’s prohibition on buy-outs also remains applicable. In addition, Section 651(a)(2) retains the treatment of common carrier-provided cable service (i.e. service provided “directly to subscribers” over a common carrier’s facility) as a cable system. 47 U.S.C. § 571(a)(2) (2000) (preserving the applicability of Section 602(7)(C), 47 U.S.C. § 522(7)(C) (2000)); *Nat’l Cable Television Ass’n v. FCC*, 33 F.3d 66, 74 (D.C. Cir. 1994).

77. 47 U.S.C. 571(a)(3)-(4).

VI applies either in part, in the case of an OVS, or in full, in the case of the cable operator.⁷⁸

Notably, the regulator again varies among these different options. The FCC regulates Title III licensees. States and the FCC regulate common carriers. Franchising authorities regulate cable operators, subject to FCC rules. OVS operators have rights defined by the Communications Act, are subject to certain carriage obligations like cable companies, and pay franchise fees although they initially were not be subject to franchise requirements. Subsequently, however, the United States Court of Appeals for the Fifth Circuit held that local franchising authorities could require OVS operators to obtain a franchise.⁷⁹

G. Broadcasting

Broadcasting, along with common carrier, is the Communications Act's oldest statutory pigeonhole. For a long time, broadcasting has been a privileged service, benefiting from advantages such as "must-carry" requirements for cable television and satellite DBS operators, and at the same time subject to unique burdens including some minimum content requirements.⁸⁰ This has been justified in the name of providing the public with free access to public information through over the air radio and television service — a form of universal service. At the same time, broadcast regulation has been subject to limitations on ownership, consolidation, and network programming controls, all in part in the name of maintaining a multiplicity of speakers over this universal information service.

Traditionally, one would not think of broadcasting as an information platform, but the advent of digital television is changing that. Digital television is a form of broadcasting that uses 6 MHz of spectrum to broadcast television as digital 1's and 0's, rather than today's analog signal. The FCC's digital television orders provided broadcasters with an additional channel to use while making a transition from analog to digital broadcasting. Broadcasters must provide one stream of video programming using that channel, but can use the remaining capacity to offer an-

78. The specific obligations of an open video system are set out in Section 653, 47 U.S.C. § 573 (2000).

79. *City of Dallas v. FCC*, 165 F.3d 341 (5th Cir. 1999), *reh'g and suggestion for reh'g en banc denied* (May 28, 1999).

80. For an example of content requirements, see the FCC's rules implementing the Children's Television Act of 1990. See Policies and Rules Concerning Children's Television Programming, Revision of Programming and Commercialization Policies, Ascertainment Requirements, and Program Log Requirements for Commercial Television Stations, *Report and Order*, 6 F.C.C.R. 2111 (1991).

cillary and supplementary services.⁸¹ Recently, a television broadcaster launched a broadcast television-based high speed Internet access service using a telephone line for upstream traffic.⁸² As a Title III licensee, the FCC regulates broadcasters, and states and local governments are not involved.

III. PIGEONHOLE REGULATION: 3 NEW PROBLEMS AND 1 OLD ONE

When regulation-by-pigeonhole encounters new services or market arrangements, two related issues arise. First, the question is always raised as to whether and how these services fit into existing regulatory classifications, and the regulatory rights and obligations attached to those classifications. This creates issues of maintaining a “level playing field” among competitors providing services that may be substitutes. Second, these regulatory classification pigeonholes can also substantially limit regulators’ ability to revise regulation of legacy applications and networks to fit new realities. Four case studies illustrate the problems: the recent developments of cable modem Internet access services, Voice-over-Internet-Protocol, broadband capacity futures, and the existing practice of retail regulation in an emerging competitive marketplace.

A. *Cable Modem Service*

Over the last five years, a battle over the regulatory classification of cable modem services ensued in city councils and courts around the country, at the Federal Trade Commission, and at the FCC.⁸³ Entities are seeking to “open up” the cable platform and to require the cable modem platform to host multiple ISPs. In essence, these parties want to extend to cable systems the *Computer II* requirement that facilities-based common carriers offer basic transmission separately from the enhanced information service.⁸⁴

81. Advanced Television Systems and their Impact upon the Existing Television Broadcast Service, *Fifth Report and Order*, 12 F.C.C.R. 12810 (1997).

82. K. Kerschbaumer, *A Clear DTV Internet Strategy*, BROADCASTING & CABLE, Jan. 7, 2002, at 42.

83. See, e.g., *MediaOne v. Henrico County*, 257 F.3d 356 (4th Cir. 2001); *AT&T v. City of Portland*, 216 F.3d 871 (9th Cir. 2000); *AOL-Time Warner Merger Order*, *supra* note 60; *Applications For Consent To The Transfer Of Control Of Licenses and Section 214 Authorizations From MediaOne Group, Inc., Transferor, To AT&T Corp., Transferee, Memorandum Opinion and Order*, 15 F.C.C.R. 9816 (2000); *FTC AOL-TimeWarner Consent Decree*, FTC File No. 001-0105.

84. See Letter from John Butler, Sher & Blackwell to Magalie Roman Salas, Secretary, Federal Communications Commission, (December 21, 2001) (filed in

At one level, the battle over cable modems is a philosophical dispute. On one side stand those who fear that permitting a closed, proprietary cable modem platform will lead to a regime in which a small number of providers of high-speed last mile facilities become information gatekeepers for the rest of society, much as the big three television networks were before the rise of cable, the Internet and the Fox Television Network.⁸⁵ On the other side stand the cable system operators (and other potential system operators) who argue “open access” presumes the existence of networks that will never be built without some degree of exclusivity.

Regulatory “pigeonholes,” have been invoked by both sides of this debate to structure the regulatory result they seek. Open access proponents argue that cable modem service, or at least the underlying transmission, is a “telecommunications service.” If that is true, then in the absence of forbearance or other regulatory action, the cable operator would be a facilities-based common carrier. As a facilities-based common carrier, *Computer II* would require the cable operator to unbundle basic cable modem transmission and offer it separately from the enhanced information service of Internet access. Once unbundled and offered to the public generally, cable modem transmission would be a “telecommunications service.” Assuming that cable modem transmission is an interstate service (as FCC precedent classifying Internet services would suggest) then federal universal service contribution requirements would apply, as well as other obligations of non-dominant common carriers such as CALEA.⁸⁶

On the other side, the cable industry has argued that cable modem service is a “cable service.” This is in keeping with the model of a cable platform as proprietary, protected by the First Amendment and subject only to limited, statutorily mandated carriage requirements. In that case, Title VI would place cable modem services outside of common carrier regulation, and, based on the history of cable regulation, mandatory carriage would be

FCC GEN Docket No. 00-185). As noted above, *supra* note 31, the FCC is now seeking comment on whether to abandon this unbundling requirement under Computer II.

85. See Mark Cooper, *Open Communications Platforms: Cornerstone of Innovation and Democratic Discourse in the Internet Age*, 2 J. TELECOM. & HIGH TECH L. (forthcoming 2003); see also James B. Speta, A Common Carrier Approach to Interconnection, 54 FED. COMM. L.J. 225 (2002)(setting forth a legal basis for interconnection between ISPs and cable operators growing out of the common law of common carriage).

86. See, e.g., Implementation of the Local Competition Provision in the Telecom. Act of 1996, Intercarrier Comp. for ISP-Bound Traffic, *Order on Remand and Report and Order*, 16 F.C.C.R. 9151 (2001).

extremely unlikely in the absence of express legislation.⁸⁷ In order to offer cable modem service, cable operators would be *required* to obtain a local franchise, and franchising authorities could collect up to a five percent franchise fee.⁸⁸

Presented with these arguments, when the FCC finally addressed the issue of the proper classification in March 2002, it rejected the classifications proffered. Instead, the FCC concluded that cable modem service is an “information service.”⁸⁹ Consistent with the approach taken in the *Stevens Report* in which it held that Internet access is an information service, the FCC viewed cable modem service as an Internet access service in which a self-provisioned telecommunication is integrated with the information being provided.⁹⁰ The FCC distinguished the provision of a “telecommunication” as an integrated component of an information service from a separate and separable offering of a “telecommunications service.”⁹¹ The Commission continued to view “information services” and “telecommunications services” as mutually exclusive statutory classifications.⁹² In rejecting the “cable services” classification proffered by cable operators, the FCC found that cable operators did not “control” the majority of content “accessible by cable modem subscribers,”⁹³ that cable modem service is not an “other programming service” because the information provided is not provided to all subscribers generally but only on a subscriber specific basis, that the interactivity provided by cable modem services goes beyond that “‘required for the selection’ of content,”⁹⁴ and that cable modem services are not for the “use” of cable services.⁹⁵

Placing cable modem services in the information services pigeonhole answered some questions, but raised others. By its terms, *Computer II*'s requirement that facilities-based common carriers offer the underlying transmission services under tariff separately from their information services would not apply, at least as to cable companies that were not also offering other,

87. Compare *Turner II*, *supra* note 6 (upholding must carry legislation) with *Quincy Cable TV, Inc. v. FCC*, 768 F.2d 1434 (D.C. Cir. 1985), *cert. denied*, 476 U.S. 1169 (1986), and *Century Communications v. FCC*, 835 F.2d 292 (D.C. Cir. 1987) (finding FCC must carry regulations unconstitutional).

88. 47 U.S.C. § 542(b) (2000).

89. See *Cable Modem Classification Order*, *supra* note 18, at 4798, 4823.

90. *Id.*

91. *Id.* at 4824-5.

92. *Id.*

93. *Id.* at 4835.

94. *Id.* at 4836.

95. *Id.* at 4837.

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common carrier services.⁹⁶ But what if the cable company also offered common carrier services, especially if they provide those common carrier services over the same hybrid-fiber coaxial cable facilities used to deliver cable modem services? Rather than applying *Computer II* broadly, as it has done with respect to services such as xDSL that are offered over existing telephone lines, the FCC held that *Computer II* did not apply to cable facilities, creating an explicit technological distinction between cable facilities and “traditional wireline . . . facilities.”⁹⁷

The FCC then addressed the appropriate regulatory classification for the transmission service that a cable operator might make available to an unaffiliated ISP. The Commission concluded that such an offering by AOL-Time Warner would be a private carrier service, not a common carrier service, concluding that AOL-Time Warner decided “whether and on what terms to serve” with no specific regulatory compulsion to serve all indifferently.⁹⁸ In so holding, the Commission made clear that it would not use the limited alternative ISP access efforts then underway at some cable companies as the basis for finding that a cable modem provider had become a common carrier.

Finally, the Commission concluded that cable modem service is an interstate information service.⁹⁹ This decision placed the regulation of cable modem services outside of state jurisdiction, and within the scope of the FCC’s previous preemption of state authority in the *Computer Inquiries*.

Even such a sweeping decision does not, however, end all the regulatory uncertainty. The FCC, in the same document, issued a notice of proposed rulemaking regarding the consequences of its classification decision, and whether it should use its Title I regulatory authority over interstate information services to im-

96. *Id.* at 4826, quoting NARUC I, *supra* note 8, at 640.

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97. *Id.* The FCC did not expressly state that *Computer II* was limited only to “traditional wireline services and facilities,” but its reasoning suggests strongly that *Computer II* would not be extended to other platforms, such as satellites. As noted elsewhere in this article, the FCC is also reconsidering whether *Computer II* should be applied to traditional wireline facilities. See *supra* note 31, and accompanying text.

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Responding to a district court decision applying the Ninth Circuit’s decision in *City of Portland v. AT&T*, 216 F.3d 871 (9th Cir. 2000), to require cable modem services to be treated as telecommunications services, the Commission also took the unusual step of also forbearing from the application of *Computer II*, if it were held to be applicable. Cable Modem Classification Order, *supra* note 18, at 4826-7, 4843 n.219.

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98. Cable Modem Classification Order, *supra* note 18, at 4841.

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99. *Id.* at 4843.

pose specific regulatory obligations, including “open access.”¹⁰⁰ The Commission also sought comment on whether it should restrict state and local regulation of cable modem services such as requirement of a franchise, franchise fees, and consumer protection requirements.¹⁰¹ The Commission also sought comment on the applicability of the Act’s subscriber privacy provisions to “other services” offered by a cable operator.¹⁰² Separately, the Commission is also considering whether and under what circumstances a cable modem provider may be subject to universal service contribution obligations.¹⁰³

What the path to decision regarding the regulatory classification of cable modem services shows is that our current system of pigeonhole regulation adds years of regulatory uncertainty. Regulatory classifications define the debate. But these statutory classifications also limit regulatory options. With respect to cable modem services, unless the FCC construes Title I of the Communications Act to give it a blank slate with which to pick and choose among regulatory obligations found elsewhere in the Act — a concept it appears to be entertaining — the regulatory classifications themselves will be profoundly, and not necessarily rationally, limiting.

B. Voice Over Internet Protocol (“VoIP”)

Regulatory classification of cable modem transport and associated Internet access service is the “pigeonhole” battle of the last decade; the new battle will be the regulatory classification of VoIP services. Although VoIP to date largely consists of services that, with relatively low service quality, use gateways to bypass high international telephone rates (and the underlying international settlement rates system), there is little doubt that VoIP will continue to improve and change. As VoIP continues to evolve, it will increasingly become a platform to originate telephone calls. Indeed, Microsoft already builds this feature into its newest operating system, Windows XP.¹⁰⁴ In addition, newly-developed softswitch systems allow an IP-based network to interconnect and interoperate with the existing SS7-based circuit switched telephone networks.

100. See generally *id.* at 4840.

101. *Id.* at 4849-53.

102. *Id.* at 4854-55.

103. Broadband Internet Access NPRM, *supra* note 31, at 3045.

104. Microsoft does not, however, provide the telephone service for calls originated from computers running Windows XP. At present, that telephone service is provided by an internet telephone service provider (ITSP) with whom the caller enters into a service agreement to allow calls to be completed.

The key regulatory question is whether the provision of VoIP is a “telecommunications service” or an “information service.” As the FCC recognized the last time it systematically reviewed the regulatory classification of VoIP, this determination can be highly situational and fact intensive.¹⁰⁵ The umbrella of VoIP covers a wide variety of different service arrangements and network configurations. One type of VoIP service arrangement connects two gateways on the ends of a call, both of which are circuit-switched, using IP transport. In this architecture, there may be no net protocol conversion between the call as originally sent, and the call as received. In its most minimal form, the call itself may have no added features or intelligence, but is simply pure transmission. It was this form of VoIP that the FCC said may “lack the characteristics that would render them ‘information services,’” with the implication that in an appropriate case, it would find some types of VoIP to be a “telecommunications service.”¹⁰⁶

Other uses of VoIP can be highly integrated with other computer applications that the FCC clearly regards as an information service, such as e-mail or web browsing.¹⁰⁷ An application might integrate VoIP with the manipulation of documents or data among multiple users in a multiparty conference, or combine VoIP with websites so that a customer could be viewing a website and converse with customer service personnel or use voice response menus. These are merely a few illustrative examples of many possibilities. In these contexts, it appears that the voice communication is part and parcel of the access and use of stored databases and computer processing most characteristic of an information service.

In addition, even where the particular use of a VoIP technology is merely substituting IP technology for circuit-switched technology on one end of a call to or from a circuit switched telephone, the call will necessarily contain a net protocol conversion, i.e., a translation of the call from IP to circuit-switched, or from circuit-switched to IP. Under existing FCC doctrine, this net protocol conversion should be sufficient to render an IP-to circuit

105. Stevens Report, *supra* note 44, at 11544. At that time, the FCC referred to VoIP as “Internet telephony.”

106. *Id.*

107. Cable Modem Classification Order, *supra* note 18, at 4822-26. In the AOL-Time Warner Merger Order, although the FCC invoked its Title I authority to impose merger conditions regarding instant messaging, it ducked the question of whether instant messaging or advanced instant high-speed messaging would be an information service, a cable service or a telecommunications service. AOL-Time Warner Merger Order, *supra* note 60, at 6610.

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or a circuit-to-IP call to be an “information service.”¹⁰⁸ Under the regulatory classification approach taken in the *Stevens Report*, this would be true even if functionally the VoIP service is the same as the service offered by a circuit switched telephone company.¹⁰⁹

The answer to the question of whether VoIP is a telecommunications service or an information service therefore dramatically alters the degree to which VoIP is regulated. If VoIP is an information service, and VoIP providers are therefore information service providers, they will be regulated by states only to the limited extent states regulate intrastate information service providers, rather than potentially falling under state common carrier regulations.¹¹⁰

VoIP as an information service intensifies pressures on regulators. As information service providers, VoIP providers would also not be required to pay interstate or intrastate access charges, but would instead be treated as “end users” for the purposes of access charges, and would not be required to pay the access charges that telecommunications carriers are required to pay.¹¹¹ If VoIP is an information service, then federal and state regulators face greater pressure to remove subsidies from access and other intercarrier compensation rates, in order to avoid creating a subsidy “death spiral” in which subscribers migrate to VoIP simply to avoid implicit subsidies built into service rates.

108. Computer II, *supra* note 31, at 421-22.

109. This contrasts with the European Union, which has articulated a “functional equivalency” test for determining when VoIP should be subject to traditional telephony regulation. See Commission Communication 369/3, Status of Voice on the Internet under Community Law, 2000 O.J. (C369) 3, available at http://europa.eu.int/eur-lex/pri/en/oj/dat/2000/c_369/c36920001222en00030005.pdf (Dec. 22, 2000); see also INT’L TELECOMM. UNION, REPORT OF THE SECRETARY-GENERAL ON IP TELEPHONY 22-23 (2001), available at http://www.enum.org/information/files/ITU_WTPPFfinalreport31Jan.pdf (last visited Aug. 28, 2002).

110. VoIP may not be subject to intrastate regulation as either an information service or a telecommunications service if it is not possible to separate the intrastate and interstate components of a customer’s VoIP service. *Louisiana Pub. Serv. Comm’n v. FCC*, 476 U.S. 355, 375 n.4 (1986). With respect to calls originating or terminating on an IP device, it is likely that it will be impossible to distinguish interstate from intrastate VoIP calls as IP addresses are not geographically specific and thus, unlike telephone numbers, cannot be used to segregate intrastate from interstate traffic.

111. See *supra* note 56, and accompanying text; see also Complaint of Frontier Telephone of Rochester Against US DataNet Corp., Order Requiring Payment of Intrastate Carrier Access Charges, Case No. 01-C-1119 (NYPSC, May 31, 2002) (on file with author) (finding that an internet telephony provider that provided used IP to transmit calls between two gateways on the circuit switched network, i.e. with no net protocol conversion, was a telecommunication service and should have been subject to intrastate access charges).

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Moreover, the explicit federal universal service contribution system, which today collects contributions based on “revenues derived from domestic end users from telecommunications and telecommunications services,”¹¹² faces erosion if VoIP is an information service and VoIP calls can be placed without contributing to explicit universal service. Just as with implicit subsidies, migration of voice traffic to a VoIP information service would reduce the revenue base supporting universal service subsidies, unless, of course, the contribution base is changed so that it no longer relies on distinguishing revenues from telecommunications from revenues from information services.¹¹³

VoIP as an information service poses other statutory challenges as well. An information service provider, for example, cannot directly request interconnection or unbundled network elements from an incumbent LEC under Sections 251 and 252 of the Communications Act, but must do so indirectly through an intermediary telecommunications carrier. Likewise, unless an ISP is integrated with either a telecommunications carrier or a cable television system, it will not directly have access to regulated pole attachments. CALEA obligations, however, would not apply, as CALEA’s capability requirements do not apply to information services.¹¹⁴

On the flip side, if VoIP is a telecommunication service, and regulated under the framework that evolved for circuit-switched services, then the VoIP providers would face a range of burdensome new regulatory consequences, not all of which can be relieved through the FCC’s forbearance authority. To begin with, it is more likely that both state and international service authorization requirements will apply.¹¹⁵ Intrastate and interstate access charges may apply, depending on how states and the FCC

112. 47 C.F.R. § 54.709(a)(i) (2000).

113. 47 C.F.R. § 54.709(a)(i) (2000). The FCC is considering changing the contribution methodology to, *inter alia*, one based on network connections rather than revenues. Federal State Joint Board on Universal Service; 1998 Biennial Regulatory Review, *Further Notice of Proposed Rulemaking*, 17 F.C.C.R. 3752 (2002). If this change were adopted, the universal service contribution methodology would no longer be linked to the regulatory classification of the service from which revenues were derived. *See also* Broadband Internet Access NPRM, *supra* note 31, at ¶¶ 69-82.

114. Communications Assistance for Law Enforcement Act (CALEA) § 103(b)(2)(A), 47 U.S.C. § 1002(b)(2)(A) (2000). The FCC has noted that the definitions of “telecommunications service” and “information service” under CALEA and the Communications Act are not identical, and it has applied CALEA to facilities jointly used to provide information services and telecommunication services. *See* Communications Assistance Law Enforcement Act, *Second Report and Order*, 15 F.C.C.R. 7105, 7110 (1999).

115. *See* Stevens Report, *supra* note 44, at 11540, ¶ 82 & n.170.

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choose to assess access charges.¹¹⁶ VoIP services also may fall within the FCC's non-discretionary universal service contribution requirements under Section 254(d).

For VoIP, the regulatory classification battle is not just a U.S. domestic policy issue. Around the world regulators are examining VoIP, reaching widely differing results. Although the U.S. thus far has left VoIP in a state of de facto deregulation, Canada, for example, will regulate VoIP providers as telephone companies if the communications are real-time.¹¹⁷ Some countries affirmatively prohibit voice over IP networks, including the public Internet.¹¹⁸

C. Bandwidth Trading

Bandwidth trading is the third example of a new market development that does not easily fit into existing regulatory classifications. While the future of bandwidth trading has been clouded by the collapse of Enron, one of its chief proponents, and by the "bandwidth glut," it still provides an interesting look at how regulatory classifications can create questions for market innovations.¹¹⁹

One of the main ideas behind bandwidth trading was to try to fully commoditize bandwidth sales between geographic pooling points, and create exchanges on which that commoditized bandwidth could be sold.¹²⁰ An essential underlying ingredient was a standardized contract that kept the terms and conditions basically constant, i.e., provided a uniform definition of the services being traded, so that buyers and sellers could, in the ideal, bargain only over price.¹²¹ Proponents of bandwidth trading argued that it would provide a much more efficient way for users to

116. See, e.g., Complaint of Frontier Telephone of Rochester Against US DataNet Corp., *supra* note 111. At least one lower state court has ruled that access charges applied to a service that the provider asserted was VoIP. *Qwest Corp. v. IP Telephony, Inc.*, Case No. 99CV8252, slip op. at 1-2 (Denver D. Ct., Jan 12, 2001).

117. See INT'L TELECOMM. UNION, REPORT OF THE SECRETARY-GENERAL ON IP TELEPHONY 39 (2001), available at http://www.enum.org/information/files/ITU_WTPF_finalreport31Jan.pdf (last visited Aug. 28, 2002).

118. *Id.*

119. See *Fiber-Optic Glut Saps Bandwidth Trading*, REUTERS, Jan. 3, 2002; Khali Henderson, *Bandwidth Trading at a Crossroads*, PHONE+ MAGAZINE, Jan. 2002, available at <http://www.phoneplusmag.com/articles/211edlet.html>. But see *Enron Goes But Bandwidth Trading Still Makes Sense*, Ovum Comments, at www.ovum.com/go/ovumcomments/006458.htm (Feb. 25, 2002) (quoting an analyst as saying "it's too early to sound the death knell for trading in the telecoms sector.").

120. Darren Jacobs, *Where has Bandwidth Trading Been? Where is it Now?*, PHONE+ MAGAZINE, July 2001, available at <http://www.phoneplusmag.com/articles/171tpost.html>.

121. *Id.*

obtain needed bandwidth, and for providers to contract and manage risks. In its purest form, bandwidth trading would essentially eliminate issues of discrimination by allowing all discrimination to be arbitrated in an open exchange.

For the sake of argument, flash forward and assume that pooling points were assembled, and the standardized contract terms were generally agreed upon within the trading community. A sale of telecommunications according to a standardized contract that is offered to anyone willing to trade in the exchange on first blush appears to be the provision of telecommunications for a fee, offered in a manner that is offered indifferently to any party, the core of the definition of a common carrier service.¹²² Yet these contracts are highly specific. Price presumably would vary from route to route and from moment to moment, both depending on both the availability of bandwidth supply at the date and time capacity is provided, and the number of others seeking capacity at the same time. Moreover, capacity available on one route, for one sale, is not necessarily available for sales to others, or along other routes. This seems much more like the sale of excess capacity that gave rise to private, non-common carrier carriage.

These definitional difficulties become even greater if what is really being traded is the contract, not the underlying service. Commodities markets have generally developed a variety of risk management devices, all of which are financial transactions that rarely involve the actual delivery of the commodity being traded. A commodity trader can, for example, take a delivery of a carload of pork bellies, but she can also offset that contract against other contracts.

The remoteness of buyer and seller makes it especially difficult to determine the jurisdictional classification of a bandwidth contract, or whether the sale is ultimately to an end user or a carrier. How does the seller at an exchange determine whether the bandwidth contract between San Francisco and Los Angeles will be used for intrastate traffic, interstate traffic, or simply to be offset against other contracts? Similarly, is the purchaser at the exchange a carrier or an end user (a critical distinction for assessing universal service under today's contribution formula) and who is to say that the contract will not be sold again before the service is delivered?

One could, of course, try to force fit bandwidth trading into the old regulatory models, but for what purpose? Bandwidth

122. See *supra* note 17 and accompanying text.

trading illustrates that the old regulatory classifications contained assumptions about how services are sold that may no longer remain valid. Any regulatory scheme that is going to survive convergence will also have to have sufficient flexibility so that it does not stand in the way of new market innovations in how services are sold.

D. Retail Regulation Reform for Telephone Service

The final case study is the old problem of retail rate regulation reform for telephone service, which presents new dilemmas in light of increasing competition. As discussed above, neither the federal government nor the state government regulates the entirety of a common carrier's operations. They split the jurisdiction, with the lion's share of responsibility residing with the states. The FCC regulates prices for interstate services, including interstate end user charges that are billed along with the subscriber's state-regulated local monthly service charge, charges that long distance carriers pay to local carriers when they originate or terminate an interstate long distance call, and interstate long distance rates.¹²³ The state regulates the monthly service charge for local service, and any intrastate long distance services.

Historically, in the monopoly era, this jurisdictional split did not make much difference. There was only one choice of local and long distance service, and consumers paid what they were charged. Both the states and the FCC pursued various non-cost-based pricing strategies to subsidize residential local service charges: higher charges for long distance service implemented either through the costs allocated to toll service or, later, to access charges, even when the costs of toll service were no higher than the costs of local service;¹²⁴ higher rates for local business line service, which often are double local residential service rates, even though the cost of service will be approximately the same;

123. 47 U.S.C. § 152 (2000). Although the FCC has detariffed most interstate long distance services, it has not actually forborne from regulating interstate long distance rates. Interstate long distance rates must still be just and reasonable, cannot be unreasonably discriminatory, and are subject to rate averaging and rate integration requirements.

124. Until the FCC created access charges in the 1980's, this subsidization was largely carried out through the separations process, by assigning more costs to the interstate jurisdiction than were justified by interstate usage. Milton Mueller has described how this evolved historically as a policy supported both by the Bell System and by regulators. MILTON L. MUELLER, *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM* 150-64 (1997).

above-cost rates for optional features such as voicemail, call waiting or caller ID (called vertical features); geographic rate averaging of rates between high and low cost areas; and “value of service” pricing between different geographic areas so that rural areas with relatively few subscribers in the local calling area had lower monthly service charges than urban areas with many subscribers, even though the cost of service is lower in the urban area than the rural area.¹²⁵ The effect of these policies was, and is, redistributive — shifting money from business users to residential users, and from consumers of “luxuries” to those who purchase only basic service. The result was a set of retail prices that reflected social and political policy choices, and did not at all reflect the underlying costs of service.

The existence of this irrational retail pricing structure infects and complicates all other telecommunications policy issues. The regulatory status of VoIP, for example, is a much more difficult policy issue because VoIP as an information service threatens these complex subsidies, while VoIP as a telecommunications service threatens to apply these irrational legacy policies to a new, currently unencumbered technology. And because these economically irrational rates exist in both the federal and state rate structures, neither the federal government nor the state government alone can rationalize the retail pricing system.¹²⁶

The chaos of having retail-pricing policies set in two jurisdictions — federal and state — also infects competition policy because the FCC cannot fully deregulate retail rates as competition increases. One could imagine a rational competition development policy, for example, that had strong wholesale requirements, including permitting widespread use of an unbundled network, but that also relaxed retail rate regulation and permitted carriers to redesign rates at the retail level to be more in line with the structure of underlying forces and the competitive realities of the marketplace. Although the FCC can set national market opening rules, it does not have the direct authority to deregulate retail rates to implement such a policy,¹²⁷ and states

125. See GENERAL ACCOUNTING OFFICE, TELECOMMUNICATIONS: FEDERAL AND STATE UNIVERSAL SERVICE PROGRAMS AND CHALLENGES TO FUNDING 14-18, GAO-02-187.

126. This is especially apparent in the area of access charges, in which the federal government has undergone substantial pricing reforms over the past 20 years, but many states have not.

127. The FCC does have the authority to preempt state rate limits if they contravene section 253(a), 47 U.S.C. § 253(a) (2000). It also could deregulate the end user rates it regulates, such as the subscriber line charge, which could have the effect of making state price regulation much less effective.

have been generally reluctant to deregulate or substantially modify retail rates, especially when it could adversely affect politically-sensitive residential monthly service rates.

Moreover, the failure of states to address retail rate reform impinges on the ability carry out other telecommunications reforms. The FCC has, for example, proposed moving to a unified system of intercarrier compensation.¹²⁸ One of the clear obstacles to a unified intercarrier compensation system, identified by the FCC and virtually all commenters, was the FCC's lack of direct authority over intrastate access rates. Similarly, implementation of the FCC's competitive policies for both local and long distance entry is now bumping up against concerns that rates for unbundled network elements, even if cost-based, may still face a retail price squeeze, because regulators have required incumbents to price residential service below cost.¹²⁹ These competition policy problems all result from the same root cause: artificial regulatory classifications, and the assignment of jurisdiction over those classifications, subdivide authority to such an extent that no single regulator can direct change without cooperation from other regulators.

IV. THE CHALLENGE OF FINDING SOLUTIONS

So what is the solution? How can regulation be reconfigured to address the basic technological reality that multiple information platforms can run many different types of applications, and the specific transmission medium, whether copper pair, hybrid fiber coaxial cable, wireless or even broadcast television spectrum, no longer necessarily defines the application? Because regulation by pigeonhole is built into the fundamental structure of the Communications Act, it cannot be fundamentally addressed without revisiting the core structure of that Act, and the regulatory relationships between the federal, state and local governments.

There are at least two possible routes to statutory reform, one exemplified by the Clinton Administration's aborted Title VII proposal and one that would be a more stem-to-stern revision of the Communications Act. While variations of the Title VII strategy could provide patches to the existing regulatory system, the latter course is probably now the only effective long-term solution, as changes would be necessary throughout the Communi-

128. See Developing a Unified Intercarrier Comp. Regime, *Notice of Proposed Rulemaking*, 16 F.C.C.R. 9610 (2001).

129. See *Sprint Communications Co. LP v. FCC*, 274 F.3d 549 (D.C. Cir. 2001).

cations Act, in part because of the structure of the 1996 amendments.

A. *Title VII*

The Clinton Administration envisioned Title VII as a new title of the Communications Act to govern switched broadband services. The idea was to add Title VII, like Title VI before it, in addition to the other titles of the Communications Act. It would have addressed the new, anticipated technological phenomenon of convergence. The concept was an “opt-in” regime, one which would combine features of common carrier and cable regulations, particularly as they pertained to social goals of regulation, but would treat all two-way switched broadband networks the same.

The Clinton Administration’s Title VII proposal was a valiant attempt to anticipate the future and to try to establish a new regulatory regime to fit changing realities before there was a regulatory “crisis.” Although Congress never seriously considered it, the Title VII proposal still warrants review because it was the one and only recent attempt to confront the problem of regulation by pigeonhole. The Title VII proposal would have applied at a provider’s election, to “two-way, broadband, interactive, switched, digital transmission services . . . provide[d] to end users.”¹³⁰ The proposal did not define any of these terms, although it gave the FCC the power to do so.¹³¹ To be eligible for Title VII, a firm had to offer these services to at least twenty percent of its subscribers in a state. Significantly, Title VII would have applied both to the Title VII broadband services and to “the other services that share broadband facilities in those states.”¹³² On the other hand, services that did not share the Title VII facilities would remain subject to Title II or Title VI.

Title VII would have imposed three broad requirements on all Title VII networks: “interconnection and interoperability requirements,” “open access obligations (including access for the disabled) to enable all persons to send information over the firms’ broadband facilities,” and “[u]niversal service requirements consistent with those under other parts of the Communications Act. . . .”¹³³ Rates would have been regulated only if “the FCC finds [that the firms] have market power in the provision of such

130. THE WHITE HOUSE, ADMINISTRATION WHITE PAPER ON COMMUNICATIONS ACT REFORMS 7, available at <http://clinton6.nara.gov/1994/01/1994-01-25-white-paper-on-communications-act-reforms.html> (1994).

131. *Id.*

132. *See id.*

133. *Id.*

services.”¹³⁴ State and local rate regulation of firms without market power would have been expressly preempted.¹³⁵ Pole attachment provisions would have applied to Title VII providers, as well as provisions regarding obscene and harassing phone calls, services for hearing and speech-impaired individuals, and restrictions on operator services, autodialers and pay-per-call services. For video services, Title VII networks would have been subject to retransmission consent, requirements to set-aside capacity and carry public, educational and government access programming, must-carry requirements for commercial and non-commercial broadcast signals, and video subscriber privacy protections.

The Clinton Administration proposed that “[s]tates would continue to regulate rates for the intrastate components of Title VII services provided by firms with market power.”¹³⁶ It would, however, have required exercise of that authority to be “in accordance with models and guidelines adopted by the FCC in consultation with the states,” rather than simply through the states acting on their own.¹³⁷ The Clinton Administration also would have declared that “federal authority over the rates, terms, and conditions under which communications services are provided would predominate only when needed to ensure that national goals of promoting competition and liberal interconnection and access require it.”¹³⁸

Although not part of Title VII, the Clinton Administration also proposed, “to preempt state entry regulation for provision of telecommunications and information services.”¹³⁹ In addition, the Administration proposed “to preempt state and local regulation of the rates for any service charged by a telecommunications carrier that the FCC finds, or has found, after notice and comment, to lack market power.”¹⁴⁰ The Administration’s white paper on this topic proposed procedures to restore rate regulation under certain, unspecified circumstances.¹⁴¹

Reviewing the Clinton Administration’s Title VII proposal almost eight years later, it is easy to see why it sank so quickly. The proposal was tremendously ambitious. It also had something for everyone to hate. Cable companies were not going to

134. *Id.*

135. *See id.*

136. *Id.* at 8.

137. *Id.*

138. *Id.*

139. *Id.* at 3.

140. *Id.*

141. *See id.*

lightly accept open access for their closed, proprietary networks. Telephone companies got little from the Title VII proposal itself, unless they could convince the FCC that they lacked market power in broadband services, and they also would have been saddled with significant mandatory carriage obligations for video services. State PUC commissioners attacked the proposal because it did not clearly and unequivocally maintain state jurisdiction in the face of technological change.¹⁴² Neither the House nor the Senate considered a Title VII proposal.¹⁴³

B. A “Bottoms-up” Statutory Overhaul

The real answer, one we can see more clearly now than nine years ago, is that we will need a unified regulatory regime that applies regulation where functionally necessary to address economic or social issues, but does not distinguish regulatory right or obligation by underlying technology. The key to moving beyond regulation by “pigeonhole” is to de-emphasize the significance of the pigeonholes, and to recognize that regulation of the platform and inputs to the information platform are distinct from regulation of applications run on the platform.

In another article in this journal, Kevin Werbach provides a succinct, articulate framework for a new regulatory model. He suggests replacing pigeonhole regulation with a unified system organized around functional “layers” derived from the OSI model.¹⁴⁴ Werbach identifies four different layers relating to information platforms – content, applications or services, logical, and physical.¹⁴⁵ As far as it goes, this makes eminent sense. From an institutional perspective, it is also a fundamental, radical change.

142. See *State Regulators to Congress: Keep Your Hands Off Our Business*, 12 STATE TELECOM. REGULATORY REPORT (March 10, 1994).

143. See Jonathan D. Blake & Lee J. Tiedrich, *The National Information Infrastructure Initiative and the Emergence of the Electronic Superhighway*, 46 FED. COMM. L.J. 397, 410 & n.58 (1994).

144. See Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. TELECOM. & HIGH TECH. L. 37, 59 (2002). Others have also used a layered approach to analyze communications policy. Yochai Benkler used a layered approach to critique and outline the challenges facing media regulation in a digitally networked environment. Yochai Benkler, *From Consumers to Users: Shifting the Deeper Structures of Regulation Toward Sustainable Commons and User Access*, 52 FED. COMM. L.J. 561 (2000). Lawrence Lessig uses this approach to explore the legal issues facing the information “commons.” LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 23-25 (2001).

145. Werbach, *supra* note 144, at 59. Benkler uses three layers, physical, logical, and content. Lessig likewise uses three layers, physical, code, and content. All are derived from, and are simplifications of, the OSI model, which has seven layers.

Building off of the layered approach, it is possible to identify a list of issues Congress would have to confront were it to attempt to implement the layered model, or any regulatory framework for a converged world. This section works through these layers, using Werbach's model of four layers, to examine the basic policy choices that would confront Congress as it examines how to reconstruct a unified, regulatory system for information platforms, and to propose some specific changes.

Starting literally from the ground up, the most basic element at the physical level of the network is access to poles, conduits and rights of way. Rights to rate regulated access to poles, conduits and rights of way should not be limited to companies that also provide "telecommunications services" or "cable services," as is the case today under Section 224. In cases of scarcity, it may make sense to prioritize in favor of those who offer services for hire to the public generally, as opposed to private carriage, but it makes little sense to make access to poles, conduits and rights of way turn on whether or not you are providing a telecommunications service or an internet access service that happens to be able to run a voice application. Similarly, Section 253's requirements that right of way fees be reasonable, competitively neutral and non-discriminatory should not exclude systems that provide access to the world via the Internet. Legislators should modify each of the Act's provisions affecting rights-of-way to make them "application-neutral."

Making such a change requires confronting one of the core institutional disputes that has festered since the 1996 Act – the extent of the legitimate role of state and local right-of-way holders to govern entry and the services provided over the networks. Limiting this authority to receipt of compensation and reasonable limitations on the timing and quality of construction would greatly reduce barriers to entry and deployment of new networks.¹⁴⁶ This issue of access to public rights-of-way will require Congress to balance the interests of the public and providers and would-be providers of information platforms, with the property interests of the right-of-way owners.

Moving above the level of rights of way, at both the level of physical networks and applications, there is the process of authorizing entities to build new networks, regardless of the applications that will later ride over those networks. It appears that

146. TECHNET, A NATIONAL IMPERATIVE: UNIVERSAL AVAILABILITY OF BROADBAND BY 2010 12-13, *available at* <http://www.technet.org/news/newsreleases/2002-01-15.64.pdf> (last visited Aug. 26, 2002).

we gain little from individual state entry regulation for facilities construction and entry into applications markets such as voice telecommunications. Indeed, much is hindered. Following the model Congress applied to mobile communications, and much as the Clinton Administration white paper proposed, federal law should preempt entry regulation across the board and divorce it from right-of-way regulation.¹⁴⁷ Today, for example, a broadband service provider must negotiate cable franchises in each local area, and also obtain certificates of public convenience and necessity from every state PUC for areas in which it seeks to operate. If a licensing scheme is necessary, perhaps to screen out individuals that repeatedly form and dissolve communications providers as a mechanism to commit consumer fraud,¹⁴⁸ companies should at least have the option of obtaining a single, nationwide license to provide any communications services, subject to only minimal registration requirements at the FCC.¹⁴⁹

After receiving authorization for construction of an information platform, the provider must assemble its network. One way to do this is actually to build a network. A second method is to rent all or part of the network, as is permitted today under Section 251's provisions governing unbundled network elements. In the foreseeable future, if there will be only a small handful of facilities providers, any new regulatory framework must decide whether, and, if so, under what conditions, facilities providers are required, when technically feasible, to make their facilities available to people assembling competing networks.¹⁵⁰ Clearly, regulators should draw one demarcation line with respect to market power in the underlying facilities, as Section 251 essentially does, excluding platforms that lack market power in the underlying facilities from physical unbundling requirements.¹⁵¹

147. See *supra* Part II.D. (discussing federal preemption of state entry and rate regulation for CMRS).

148. See CCN, Inc., Church Discount Group, Inc., Discount Calling Card, Inc., Donation Long Distance, Inc., Long Distance Servs., Inc., Monthly Discounts, Inc., Monthly Phone Servs., Inc., And Phone Calls, Inc., *Order to Show Cause and Notice of Opportunity for Hearing*, 13 F.C.C.R. 13599 (1998) (revoking a carrier's operating authority for engaging in slamming) (these companies are collectively referred to as the "Fletcher Companies").

149. As the Fletcher case illustrates, although it might appear at first blush that even registration requirements are unnecessary, some of the experience in the long distance industry suggests that maintaining some ability to screen for, and take action against, abusive operators is necessary. See *Id.*

150. Technical feasibility might, for example, be affected by spectrum capacity or network management requirements.

151. The manifestation of market power of most concern would be what the FCC has termed, "Bainian" market power, i.e., the ability "to raise prices by increasing its rivals' costs or by restricting its rivals' output through the carrier's control of an

The FCC, however, also seeks to ensure that entrants have incentives to invest in their own facilities, and therefore it also weighs unbundling's effect on facilities investment.¹⁵² This is the first major threshold point at which legislators or regulators must determine whether the cable model of strong proprietary control of platforms or the common carrier model of highly constrained control will predominate.

With or without required facilities unbundling, the next question is whether to require transmission across the facilities to be sold separately from applications and content. This might be a *Computer II*-like requirement that transmission capacity be made separately available from applications. Again, there seems little need for such a requirement in a fully competitive market. With respect to facilities providers with market power, as Werbach points out, the question centers on the extent to which facilities providers can use their control of facilities to determine which applications can ride on those facilities, and the extent to which such control is necessary to provide adequate incentives for facilities investment.¹⁵³ Market power, however, will exist in degrees, and a significant question for regulators is how to ad-

essential input, such as access to bottleneck facilities, that its rivals need to offer their services." See Review of Regulatory Requirements for Incumbent LEC Broadband Telecomm. Servs., *Notice of Proposed Rulemaking*, 16 F.C.C.R. 22745, at ¶ 28 (2001). Because the FCC has most often considered dominance in the context of whether tariff requirements should apply, it has generally not examined whether providers could have joint market power stemming from coordinated interactions. See COMMISSION OF THE EUROPEAN COMMUNITIES, COMMISSION WORKING DOCUMENT ON PROPOSED NEW REGULATORY FRAMEWORK FOR ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES, DRAFT GUIDELINES ON MARKET ANALYSIS AND THE CALCULATION OF SIGNIFICANT MARKET POWER UNDER ARTICLE 14 OF THE PROPOSED DIRECTIVE ON A COMMON REGULATORY FRAMEWORK FOR ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES, COM (2001) 175 final, §3.1.2 (Mar. 28, 2001), available at <http://europa.eu.int/ISPO/infosoc/telecompolicy/en/com2001-175-5en.pdf> (last visited Aug. 28, 2002).

152. See Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecomm. Act of 1996, Deployment of Wireline Servs. Offering Advanced Telecomms. Capability, *Notice of Proposed Rulemaking*, 16 F.C.C.R. 22781, 22791-22793, at ¶¶ 22-30 (2001); see also W. Kenneth Ferree, Speech at the Broadband Outlook 2002 Conference (Jan. 23, 2002), available at www.fcc.gov/csb/broadband_jan23.html. An excellent overall summary of the various dimensions to the policy debate over unbundling is contained in Chapter 5 of the National Research Council's report, *Broadband: Bringing Home the Bits*. See COMPUTER SCI. & TELECOMMS. BD., NAT'L RESEARCH COUNCIL, BROADBAND: BRINGING HOME THE BITS 167-215 (2002), available at <http://books.nap.edu/books/0309082730/html/167.html#pagetop> (last visited Aug. 28, 2002) [hereinafter BRINGING HOME THE BITS].

153. Werbach, *supra* note 144, at 67-67; see also Cooper, *supra* note 85; see generally BRINGING HOME THE BITS, *supra* note 152, at 167-215.

dress markets that are no longer monopolies, but in which there are only a very few facilities providers.¹⁵⁴

There is also another dimension to the issue of how much control the physical layer exerts over other layers, and that is control over content itself. The greatest fear articulated by cable open access proponents is that the network operator (the operator of the physical and logical layers) will use that control to favor or disfavor specific content.¹⁵⁵ Assuming that it is actually technically possible, control of content would be antithetical to the concept of common carriage, but it is inherent in the notion of electronic publishing through information services or even the selection of cable services to provide over a cable system.¹⁵⁶ Regulators will have to decide which model prevails on the physical and logical layers of the information platform, one that transmits without regard to content, or one that is content-specific.

At least two other questions also emerge from the facilities providers' potential ability to control applications and content. The first is whether and to what extent facilities providers can limit the types of equipment that attach to the networks. Cable and telephone equipment regulation generally places strict limits on network facilities providers' ability to constrain the equipment that can be attached to the network.¹⁵⁷ A related issue is the extent to which a network provider can control the type of equipment connected to the network by controlling the transmission of information to that equipment across the network. A recent example of this issue comes from analog broadcasting, in which the FCC held that its rules did not prohibit a cable operator from screening out certain information carried in broadcast signals that enabled the use of electronic programming guide services unaffiliated with the cable operator.¹⁵⁸ In that case,

154. As discussed *supra* note 151, the FCC has not embraced the European Union's concept of joint market power.

155. See LESSIG, *supra* note 144, at 158.

156. This is, of course, an overgeneralization of the common carrier rules. Common carriers, for example, generally take steps to prevent the transmission of obscene materials over their facilities.

157. See, e.g., 47 U.S.C. §§ 544(a), 549 (2000); 47 C.F.R. § 68 (2000).

158. See Gemstar Int'l Group, Ltd. and Gemstar Dev. Corp., Petition for Special Relief, Time Warner Cable, Petition for Declaratory Ruling, *Memorandum Opinion and Order*, 16 F.C.C.R. 21531 (2001). Gemstar operates electronic programming guides. The Gemstar guides use information provided in the vertical blanking interval of the television signal, which is an area between picture images. Time Warner stripped the Gemstar information from the broadcast television signal into which it had been embedded. When Gemstar complained to the FCC, Time-Warner argued that it was not compelled to transmit this information under the "must-carry" rules, and therefore had the ability to strip out the information in the absence of a carriage agreement with Gemstar. The FCC agreed with Time-Warner.

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control of the physical layer was extended to the application layer by using control of the physical layer to filter content.

At both the physical and applications layers, another issue is the question of interconnection, specifically, when the government will mandate interconnection and on what terms. In the context of common carrier regulation today, Congress and the FCC have addressed market power concerns by mandating and regulating incumbent LEC interconnection, and even mandating interconnection of carriers that lack market power.¹⁵⁹

The source of potential market power that these interconnection mandates address is the network effect. Network effects are common: many music stores, for example, no longer carry LPs or cassette tapes because the vast majority of the customer base has migrated to CDs. In the world of telecommunications networks, the network effect is Metcalfe's Law — the usefulness, or utility, of a network equals the square of the number of users. If enough users are on a dominant network, it becomes infeasible for a user to be on any other network, unless the two networks are interconnected. The network effect is a source of market power distinct from control of underlying bottleneck facilities. The Department of Justice's and European Union's consideration of the proposed Worldcom/Sprint and MCI/Worldcom mergers, as well as the Department of Justice's disposition of Worldcom's acquisition of Intermedia, demonstrates that antitrust authorities have concerns about network market power at far lower levels than the large market share of incumbent LECs in today's telephony markets.¹⁶⁰ The Internet backbone markets show, however, that charging some entities for interconnection while others receive bill-and-keep or peering arrangements is not per se anticompetitive, and that differences in network scope justify dif-

159. See 47 U.S.C. § 251(a) (2000).

160. See Complaint of United States at 14-15, *United States v. Worldcom & Sprint*, (D.D.C. filed June 27, 2000) (Civil Action No. 1:00 CV 01526) (alleging that a combined 53% share of Internet traffic sent to or from customers of the 15 largest Internet backbones in the United States would be anticompetitive). Among the concerns leading the Department of Justice to conclude that the Sprint/Worldcom merger would be anticompetitive was the potential for "tipping" because of an alleged ability of the larger network in the context of rapid growth in Internet traffic to discriminate against other networks in interconnection. *Id.* at 16-20. See also Complaint of United States at 11, *United States v. Worldcom and Intermedia*, (D.D.C. filed Nov. 17, 2000) (Civil Action No. 1:00 CV 02789) (alleging that the combination of Worldcom and Intermedia backbones, which was less than the proposed Worldcom/Sprint combination, could have led to anticompetitive harms due to "tipping"); see also the European Commission's decision in Commission Decision Case No. IV/M.1069 1999 O.J. (L 116) (May 4, 1999), available at http://europa.eu.int/eur-lex/pri/en/oj/dat/1999/l_116/l_11619990504en00010035.pdf.

ferences in treatment.¹⁶¹ Likewise, regulatory disputes over CLEC access charges show the pitfalls of mandates on carriers to deliver traffic without regard to the price charged by the interconnecting network.¹⁶²

Some lessons emerge from these various interconnection cases. First, when a single provider's network becomes large enough, "tipping" is a problem that must be addressed either through regulation or divestiture to a competing network. Second, when the largest networks lack sufficient market power to lead to tipping, the market can generally work to create a rational solution, provided that government has not intervened in some other way to alter the negotiating positions of the parties. Third, when government does intervene, such as it did by allowing CLECs to require interexchange carriers to interconnect under binding tariffs and then forbidding interexchange carriers from refusing to deliver traffic, the government faces a choice — either more regulation or deregulation.¹⁶³

Moving fully into the applications level, this is the level at which applications are actually sold to consumers. At this level, either general or sector specific regulation of consumer fraud and misrepresentation, as well as protecting the consumer privacy interests, are necessary, if industry self-regulation is insufficient. Consumers, for example, need protection against slamming (unauthorized provider switching) regardless of the type of the transmission format or the network providing their voice telephone service. Likewise, consumer calling records (or purchases of video services and pay-per-view movies) should be

161. MICHAEL KENDE, *THE DIGITAL HANDSHAKE: CONNECTING INTERNET BACKBONES* 18 (FCC, OPP Working Paper No. 32, Sept. 2000), available at http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp32.pdf (last visited Aug. 29, 2002).

162. Access Charge Reform, Reform of Access Charges Imposed by Competitive Local Exchange Carriers, *Seventh Report and Order and Further Notice of Proposed Rulemaking*, 16 F.C.C.R. 9923 (2001).

163. With respect to CLEC access charges, the FCC chose more regulation rather than deregulation. *See id.* The FCC's decisions with respect to intercarrier compensation for ISP-bound traffic provide yet another example of the FCC choosing regulation over deregulation. Even if intercarrier compensation rates were cost-based rates, the FCC tentatively concluded that it would be better to move to a regulatorily-mandated bill-and-keep interconnection scheme, in order to prevent shifting the recovery of cost-based intercarrier compensation charges between heavy internet users and non-users. The shift in cost recovery, however, occurred as a result of retail rate averaging and flat rate retail pricing structures, which were themselves regulatory mandates. *See Implementation of the Local Competition Provision in the Telecomms. Act of 1996, Intercarrier Comp. for ISP-Bound Traffic, Order on Remand and Report and Order*, 16 F.C.C.R. 9151, 9182-83 (2001); *Developing a Unified Intercarrier Comp. Regime, Notice of Proposed Rulemaking*, 16 F.C.C.R. 9610, 9634 (2001).

protected from disclosure regardless of whether the provider uses a circuit switched network, a cable network or VoIP. While these consumer protection requirements on retail services may vary by application, they should not vary according to the technology used to deliver the application.

At the application level, we must also confront the issue of retail rate regulation. The only application that still has significant retail rate regulation is voice telephony. It is not at all clear that there is a compelling reason to continue retail rate regulation of voice telephony, provided that unbundling and resale policies are designed correctly at lower levels of the network and can actually be provisioned. Market pricing issues should be addressed with unbundling and resale policies. If, for example, incumbent telephone networks are unbundled sufficiently so that entrants do not have to incur large entry costs, and facilities operators can provision those elements rapidly, inexpensively and in substantial volumes, competition alone should be able to quash a significant, non-transitory increase in the application's price.¹⁶⁴

Indeed, retail rate regulation can frustrate policy choices made with respect to unbundling or resale at other network layers. If, for example, regulators limit unbundling in order to promote facilities investment, those incentives are muted (and the trade-off with promoting competition lost) if application rate regulation reduces the increased returns on investment that greater exclusivity should provide.

At the very least, rate regulation – including requirements that rates not vary between users other than as justified by differences in underlying cost – should be eliminated for application providers that truly lack market power. This would reflect the de facto reality that already exists with respect to contract tariffs and detariffed service arrangements, i.e., that services are individually negotiated and reflect the relative bargaining power of the contracting parties rather than any real measure of costs. This change would allow the market to innovate new ways of selling competitive services, such as bandwidth trading, free from a regulatory classification “overhang.”

164. If, on the other hand, entrants must undertake large capital and time intensive investments, such as building loops, before they can enter, or if they cannot obtain rapidly provisioned, high volumes of unbundled loops to connect to their switches at a relatively low cost per cutover, competition will be hampered and will be much less likely to constrain a significant, non-transitory increase in price.

Retail rate deregulation would greatly rationalize prices.¹⁶⁵ If pricing decisions were left to the market, it is unlikely that we would see today's pricing quirks continue. For example, although differences in residential and business lines prices could develop in a competitive market, it seems unlikely that analog residential lines would consistently remain half the price of analog lines to the adjacent business.¹⁶⁶ Likewise, it is highly unlikely that the marketplace would yield lower monthly rates in high cost areas with low teledensity than in low cost areas with high teledensity, as is the case today under some state rate design schemes.¹⁶⁷ Market based pricing would improve the financial conditions for efficient investment in underlying physical facilities.

Universal service concerns relating to the capability of citizens, particularly in rural areas, to engage in ubiquitous, real-time communications must also be addressed at the application level, as these concerns are intertwined with retail pricing policy. As the Clinton Administration recognized in its Title VII proposal, any overhaul of the regulation of information platforms must address the issues surrounding universal network access. The Communications Act provides the regulators with some of the necessary core tools by authorizing the creation of universal service funds to preserve universal service.¹⁶⁸ But the 1996 Act avoided hard choices, never actually defining with any specificity the services meant to be covered by universal service, never articulating the degree to which Congress contemplated that the FCC could shift money from consumers of lower cost states to higher cost states, and never articulating a consensus that the FCC should preempt state practices, such as value of service pricing, that reduce monthly local telephone prices in many rural areas not just below cost, but also below urban rates.¹⁶⁹

165. Here I deliberately distinguish retail rates charged to end users from rates charged to other carriers, whether through resale, unbundled network elements or access charges. As discussed previously, deregulation of inputs supplied to competitors raises other competitive issues.

166. See TRENDS IN TELEPHONE SERVICE, FCC INDUSTRY ANALYSIS DIVISION 14.1-14.2 (2001). According to the FCC, the average urban monthly residential subscription rate for unlimited local telephone service was \$20.78 in 2001. See FCC, FCC RELEASES STUDY ON TELEPHONE TRENDS 2 (2002), available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend502.pdf. By contrast, the average urban monthly subscription rate for a one-line business was \$41.80. See *id.*

167. See generally NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, LOCAL EXCHANGE RATES (1999) (on file with author).

168. 47 U.S.C. § 254(e)-(f) (2000).

169. The FCC has never addressed whether it can preempt such practices as barriers to entry under Section 253. See 47 U.S.C. § 253(a)-(b) (2000).

The keys to universal service reform have been outlined by economists and by the FCC itself: reduce unnecessary subsidies, for example, by bringing rural rates up to urban levels, and letting all rates increase modestly so long as significant numbers of subscribers do not start dropping service; provide additional assistance to low income consumers to ensure that rate increases do not cause the most vulnerable to lose service; provide universal service support through explicit, transparent mechanisms available to all competitors rather than through rate manipulations, and target support to where it is needed most.¹⁷⁰ The difficulty is not in determining the prescription, but in developing the political will to carry it out.¹⁷¹

The flip side of creating universal service support is: how do we pay for it? Assuming that this subsidy is not paid from general tax revenues, two alternatives generally emerge – contribution from providers based on revenues or contributions based on network connections (i.e. end user “lines”). Neither is perfect, and both have definitional challenges. A layered-approach, however, helps to frame the issues.

170. The FCC’s orders implementing comprehensive universal service reform and access charge restructuring for price cap and rate-of-return dependent ILECs are examples of reform plans combining increased explicit universal service funding with a reduction of previously subsidizing rates. This reduction of the total amount of subsidy by increasing end user charges was accomplished in the FCC’s order implementing comprehensive universal service and an access charge rate restructuring plan for ILECs regulated under price caps. See Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long Distance Users, Fed.-State Joint Bd. on Universal Serv., *Sixth Report and Order*, 15 F.C.C.R. 12962, 13028 (2000), *aff’d in part and rev’d in part sub nom.*, Texas Office of Pub. Util. Counsel v. FCC, 265 F.3d 313 (5th Cir. 2001); Multi-Ass’n Group (MAG) Plan for Regulation of Interstate Servs. of Non-Price Cap ILEC’s and Interexchange Carriers, *Second Report and Order and Further Notice of Proposed Rulemaking*, 16 F.C.C.R. 19613 (2001).

There is also little evidence that increasing end user rates to reduce subsidies in long distance rates hurts telephone subscribership. The FCC has monitored telephone subscribership ever since it first implemented monthly interstate end user charges in 1984. Subscribership has consistently increased since 1984, even as monthly interstate end user charges have also increased. See Alexander Belinfante, *FCC Telephone Subscribership in the United States*, available at <http://fcc.gov/web> by following the link to “Miscellaneous Reports”, leading to http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_link/IAD/Subs0701.pdf (Feb. 2002); see also ROBERT CRANDALL & LEONARD WAVERMAN, WHO PAYS FOR UNIVERSAL SERVICE? 105-128 (2000).

171. See Michael H. Riordan, *An Economist’s Perspective on Universal Residential Telephone Service*, in THE INTERNET UPHEAVAL: RAISING QUESTIONS, SEEKING ANSWERS IN COMMUNICATION POLICY 309 (Ingo Vogelsang & Benjamin Compaigne eds., 2000) (describing a hypothetical discussion between an economist and a politician regarding pricing for residential telephone services and offering an economic rationale that seeks to overcome the traditional political obstacles).

The first alternative is to base contributions on revenues. This is consistent with the current universal service program, where the formula is based on “contributors’ interstate and international revenues derived from domestic end users for telecommunications or telecommunications services.”¹⁷² It is difficult to see how this system can fit with a layered approach to regulation. Just the task of determining the revenue base requires apportioning revenues among applications such as voice telephony that are converging between and among platforms, and that may be bundled with other applications when sold to end users.

The second alternative is a connection-based approach, which holds the promise of moving universal service contribution into a layered approach by emphasizing the physical layer. A connection need not be a telecommunications service connection, an information service connection, or a video connection. A connection can be any connection to an information platform that interconnects with other information platforms. Thus, while a connection-based approach to contribution also faces definitional issues, it has the potential to provide a funding base that is more consistent with the convergence of the information platform.

Moving to the content layer, there are really two sets of issues. First, control of content can create competitive issues. Since 1992, FCC rules have prohibited vertically integrated cable operators from entering into exclusive contracts with affiliated programmers without first obtaining an FCC determination that the exclusive contract is in the public interest.¹⁷³ These rules address a competitive concern about the use of control of programming to stifle competition among applications providers.¹⁷⁴ Control of content was a way to stymie the growth of competition at the physical and applications layers.

Second, policymakers have long sought to create some privileged speakers or forms of content. At their best, these policies allow voices to speak that might not otherwise be heard. At worst, they are interest-group driven appropriation of bandwidth without investment. It is at this level that these policies must be fought out. If there is to be a universal service policy of creating

172. 47 C.F.R. § 54.709(a)(1) (2000).

173. 47 U.S.C. § 548 (2000).

174. The FCC extended these rules through 2007, finding that “vertically integrated programmers retain the incentive to favor their affiliated cable operators over competitive MVPDs such that competition and diversity in the distribution of video programming would not be preserved and protected.” Implementation of the Cable Television Consumer Protection and Competition Act of 1992, *Report and Order*, 17 F.C.C.R. 12124, 12125 (2002). In the absence of FCC action, the rules would have been subject to statutory sunset on October 5, 2002.

universal access to information, the convergence of information platforms at least holds out the possibility that this can be accomplished by supporting access to the applications rather than by mandating content.

Finally, in addition to eliminating categories based on physical platforms, Congress must make a substantial change in the current division of labor between the federal government, states, and local governments in regulating information platforms. This, too, should be looked at functionally, recognizing that the federal government is generally not as good at applying regulatory standards to local situations or conducting detailed application of rules to specific facts. On the other hand, the federal government is good at setting an overall policy framework and set of objectives, and the FCC is institutionally well-suited, because it is independent from Congress and psychologically distant from local or state politics, to play the “bad cop” in forcing necessary, but politically unpalatable reforms. In particular, this would entail expanding the FCC’s “forbearance” authority to allow it to preempt unnecessary state and local regulation of information platforms when those regulations do not rise to the level of barriers to entry.

None of this is meant to suggest that the next stage of communications reform will be easy. One of the core problems with the Clinton Administration’s Title VII proposal was that the proponents did not lay the groundwork necessary to initiate change. As communications companies struggle with the constraints of pigeonhole regulation, the impetus for change is, however, likely to grow on its own.

V. CONCLUSION

The current communications policy regime and division of labor between federal, state and local governments relies on an archaic classification of communications services into regulatory pigeonholes that cannot survive. As legislators and regulators begin to consider solutions, the layered approach is the logical starting point. After that, Congress will have to address a difficult set of policy choices embodying economic principles and public values, as well as fundamental choices about reassigning governmental roles.

Serious reexamination of communications policy has been slow to start, and needs to get underway. The longer Congress postpones earnest debate, the more likely it is that it will either be legislating in the face of a crisis, or regulators will come under

pressure to slow the pace of marketplace change by imposing unsavory new regulatory burdens on heretofore lightly or unregulated services.