

Is ISP-Bound Traffic Local or Interstate?

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I. INTRODUCTION

On February 26, 1999, the Federal Communications Commission (“FCC” or “Commission”) issued a *Declaratory Ruling* that “ISP-bound traffic is jurisdictionally mixed and appears to be largely interstate.”¹ The

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1. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, *Declaratory Ruling and Notice of Proposed Rulemaking*, 14 F.C.C.R. 3689, 15 Comm. Reg. (P & F) 201 (1999) [hereinafter *Declaratory Ruling*], vacated by Bell Atl. Tel. Cos. v. FCC, 206 F.3d 1 (D.C. Cir. 2000).

ruling did not invalidate existing interconnection agreements or preempt the state commissions that had “imposed reciprocal compensation obligations for this traffic.”² Indeed, according to the *Declaratory Ruling*, “parties should be bound by their existing interconnection agreements, as interpreted by state commissions.”³ On March 24, 2000, the D.C. Circuit Court of Appeals vacated the *Declaratory Ruling* and remanded the issue to the FCC.⁴ Nevertheless, the D.C. Circuit added that incumbents, in the interim, were “free to seek relief from state-authorized compensation that they believe[d] to be wrongfully imposed.”⁵

In the rich history of communications policy, this particular issue has proven one of the most curious. On the surface, the dispute appears to hinge on jurisdiction and money. The competitive local exchange carriers (“CLECs”) maintain that calls initiated on an incumbent’s network and transferred through the CLEC’s network to an Internet service provider (“ISP”) are local calls subject to termination fees under negotiated interconnection agreements. The incumbent local exchange carriers (“ILECs”), however, maintain that ISP-bound traffic is not local because those calls do not terminate at the ISP, but instead access the Internet, a global medium of communication.⁶

Two elements of this dispute have defined communications policy for decades: the jurisdictional tension between federal and state regulators, and the self-interested claims and counterclaims of rival telecommunications providers. This Article focuses primarily on the jurisdictional question: Should the FCC declare ISP-bound traffic interstate, and, thus, place it under its jurisdiction?⁷ Alternatively, should state commissions on their

2. *Id.* para. 1.

3. *Id.*

This conclusion, however, does not in itself determine whether reciprocal compensation is due in any particular instance. As explained below, parties may have agreed to reciprocal compensation for ISP-traffic, or a state commission, in the exercise of its authority to arbitrate interconnection disputes under section 252 of the Act, may have imposed reciprocal compensation obligations for this traffic. In the absence of a federal rule regarding the appropriate inter-carrier compensation for this traffic, we therefore conclude that parties should be bound by their existing interconnection agreements, as interpreted by state commissions.

Id.

4. *Bell Atl. Tel. Cos.*, 206 F.3d 1. The court was not satisfied that the FCC had sufficiently explained its interpretation on a key point: “LECs that terminate calls to ISPs are not properly seen as ‘terminat[ing] . . . local telecommunications traffic,’ and [] such traffic is ‘exchange access’ rather than ‘telephone exchange service.’” *Id.* at 9.

5. *Id.*

6. The Internet is “an international network of interconnected computers that enables millions of people to communicate with one another in ‘cyberspace’ and to access vast amounts of information from around the world.” *Reno v. ACLU*, 521 U.S. 844, 844 (1997).

7. The FCC has sought comments on a number of issues relating to the remand of its

own initiative intervene to resolve this dispute between the ILECs and CLECs? The substance of this semantic conflict also takes on importance in the debate: What is a local call, and why does this matter to public regulators?

Answering these esoteric questions requires some understanding of the rapid changes in information technologies in recent years. Indeed, lurking below the surface of this dispute is an explosion of emerging technologies that threatens to transform the function and scope of the publicly switched telephone network ("PSTN").⁸

Part II of this Article explains how the once invincible PSTN has evolved into a diverse, dynamic "network of networks."⁹ Part III presents a

reciprocal compensation ruling. *See* Comment Sought on Remand of the Commission's Reciprocal Compensation Declaratory Ruling by the U.S. Court of Appeals for the D.C. Circuit, *Public Notice*, 15 F.C.C.R. 11,311 (1999).

8. The hottest new technology in the first half of 2000 used wireless application protocol ("WAP"), which enables users to obtain information from selective Web sites. Nicole Harris, *AT&T Wireless Unit to Offer Free Web Access*, WALL ST. J., May 18, 2000, at B14; Andrew Ross Sorkin, *When Referring to Wireless in Europe, Use the Future Tense*, N.Y. TIMES, June 7, 2000, at H8. Craig McCaw's Teledesic envisions a network of 288 communications satellites to provide "a full array of high-speed video, data, and voice services to the vast portions of the planet beyond the reach of today's ground-based wired and wireless networks." Barnaby J. Feder, *Can Craig McCaw Keep His Satellites From Crashing?*, N.Y. TIMES, June 4, 2000, at 3-1. In addition to auctioning radio spectrum to the private sector and liberalizing the uses of licensed spectrum, the FCC is studying other options to allow for more efficient use of the spectrum, including "secondary markets; software-defined radios; and a new concept, loosely called 'bandwidth managers,' that will let the private sector decide how to allot spectrum to multiple uses." Michael R. Zimmerman & John Rendleman, *FCC Offers Bold Plan for Spectrum*, EWEEK (May 29, 2000), at <http://www.zdnet.com/eweek/stories/general/0,11011,2578135,00.html?chkpt=zdnnp1ms>.

Will there be a bandwidth glut? According to Nortel, no. The number of users, their time on the Net, and bandwidth consumed by their applications are all going up. Internet bandwidth is getting cheap fast and price elasticity is driving demand up. Internet traffic, according to Worldcom (sic), is growing at 1,000 percent per year. . . . Internet telephony is accelerating thanks to VOIP (voice over IP). Voice portals that access Internet information over the telephone are all the rage.

Bob Metcalfe, *The Next Big Thing in the World of Convergence: the Broadcast Internet*, INFOWORLD.COM (June 2, 2000), at <http://www.infoworld.com/articles/op/xml/00/06/05/000605opmetcalfe.xml>.

Mr. Gates said that while the majority of businesses are now connected to highspeed broadband Internet service, which is necessary for many of the new technologies, the wider use of new services and devices will depend on how quickly homes are wired. He said he anticipates that within five years from 25% to 30% of all U.S. homes will be connected to broadband services of some sort. Wireless devices will also proliferate for business and personal use, he said.

Paula L. Stepankowsky, *Gates Predicts Internet is Ready for its Next Stage*, WALL ST. J., May 25, 2000, at B14. Some of these developments will expand and supplement the PSTN, while others will not.

9. "[T]he central institutions of future telecommunications will not be carriers but systems integrators that mix and match transmission segments, services, and equipment,

broad history of the dual federalism of the FCC and the state commissions. Part IV presents an interpretation of why this issue is far more important to communications policy than merely a bitter dispute over a few billion dollars in claims of reciprocal compensation.¹⁰ Data traffic outweighs voice and is growing at a much faster rate.¹¹ This dispute—the nature of calls to ISPs—foreshadows many technological developments that could threaten to marginalize the publicly switched network.¹² The failure to ascertain the actual costs of transmitting data through the publicly switched network, and to impose those costs on appropriate providers, could undermine the integrity of the publicly switched network as traffic leaps into the digital future of data packet transmission via Internet Protocol (“IP”).¹³ While all

using various carriers. . . . The new issues will be those of integrating the emerging ‘network of networks.’” Eli M. Noam, *Beyond Telecommunications Liberalization: Past Performance, Present Hype, and Future Direction*, in *THE NEW INFORMATION INFRASTRUCTURE* 31 (William J. Drake ed., 1995).

10. “Merrill Lynch analyst Dan Reingold estimates that reciprocal compensation payments to CLECs will be \$600 million this year, \$1 billion next year, and \$2 billion in 2000.” Fed. Filings Bus. News, *FCC Decision Could Open Internet to Fed’l Regs*, Dow Jones & Co., Inc., Oct. 30, 1998 [hereinafter *FCC Decision Could Open Internet to Fed’l Regs*].

11. “[I]n 1995, PCs outsold TVs, the number of e-mail messages surpassed snail mail, and RBOC data traffic (driven by an unbelievable increase in Internet usage) exceeded voice traffic for the first time,” noted George Gilder. Anthony B. Perkins, *Bandwidth or Bust*, WIRED, March 1996, at 80. See Dennis Jennings, Next Generation Networks (1998) (unpublished paper, on file with the *Federal Communications Law Journal*) (projecting voice growing at 8% in five to ten years, while data will grow 45% annually during this period).

12. According to the Yankee Group, 1.1 million households had cable modems to provide access to the Internet, while 320,000 homes were connected via digital subscriber lines (“DSL”). In the first quarter of 2000, “SBC Communications installed 201,000 DSL connections; US WEST installed 136,000 DSL connections; GTE installed 88,000 DSL connections; Covad installed 100,000 DSL connections; [and] Bell Atlantic installed 60,000 DSL connections, doubling its figures from the end of 1999.” *DSL Gaining Ground on Cable Modems*, GOVERNMENT TECHNOLOGY, at <http://www.govtech.net/news.phtml?docid=2000.05.04-1030000000000094> (May 4, 2000).

13. Internet telephony, or “Internet phone” technology, allows you to use your personal computer and your Net connection both to make and receive phone calls. . . . Instead of dialing a long distance telephone call, which slogs through a local network, a long-distance network, then finally to another local network at the recipient’s end, you use the Internet. That means you are only billed for the local call to your ISP. . . . When you use a regular phone line, the entire connection is devoted to your voice. When you use an Internet telephony connection, your voice is digitally encoded, then broken up into packets and sent out across the Net.

Charles Pappas, *How Does Internet Telephony Work?* YAHOO! INTERNET LIFE, at <http://www.zdnet.com/zdhelp/stories/main/0,5594,903525,00.html> (last visited Jan. 17, 2001).

The new telecommunications environment is in stark contrast to the old one. Instead of building services around monolithic switches, largely from Lucent and Nortel, that tie the carrier to a single supplier for both hardware and applications,

eyes are focused on the bright, shiny Pretty Amazing New Stuff (“PANS”),¹⁴ federal and state regulators must not neglect the tarnished, copper plain old telephone services (“POTS”).¹⁵ Indeed, both require a publicly switched network capable of accommodating emerging technologies such as data packet transmission without being subsumed by them.¹⁶ Part V argues that ISP-bound traffic is interstate in nature, and that state commissions should initiate a generic rulemaking process to resolve this dispute, facilitating the next round of interconnection agreements. If the state commissions do not resolve these conflicts on ISP-bound traffic, one would expect the FCC to reissue its *Order* defining appropriate obligations under reciprocal compensation.

Based on this case study, Part VI concludes that the regulatory philosophy employed during the regime of monopoly providers (bargaining among competing interests or balancing conflicting social objectives) must be replaced by a new paradigm that seeks to establish a level,

service providers can now pick and choose hardware and software from a variety of suppliers. . . . The new infrastructure can be roughly divided into three layers. The first includes switching hardware designed to straddle the old world of circuit switches and the new world of packet-based networks. A second layer, which is inhabited by software-based devices known as softswitches, provides call control features that tap into the intelligent networks of the voice world. A third layer, known as the service creation layer, provides an environment for the creation of applications and services, such as call forwarding and unified messaging.

Joe McGarvey, *Voice Carriers Enter New Era*, INTER@CTIVE Wk. (Apr. 3, 2000), available at <http://www.zdnet.com/zdnn/stories/news/0,4586,2504265,00.html?chkpt>.

14. HARRY NEWTON, *NEWTON'S TELECOM DICTIONARY* 60 (16th ed. 2000) (defining “PANS” as “a term coined to describe ISDN capabilities which should eventually replace [plain old telephone services]”).

15. “Pundits still seem to believe that the copper cage protects local telephone companies from outside competition. But in fact, the cage incarcerates them in copper wires, while the world prepares to pass them by.” George Gilder, *From Wires to Waves*, FORBES ASAP, June 5, 1995, at 125, 141.

16. Perhaps, in the long run, voice will be packetized as data, virtually every home in America will be connected via fiber to the curb, and these immediate policy disputes will be long forgotten. But, as Lord Keynes warned us, “In the long run, we are all dead.” For the present, however, see NARUC INTERNET WORKING GROUP, *POLICIES ON PRICING AND UNIVERSAL SERVICE FOR INTERNET TRAFFIC ON THE PUBLIC SWITCHED NETWORK* 37 (Apr. 1998), available at <http://www.nrri.ohio-state.edu/download/9811.pdf> (last visited Jan. 17, 2001) [hereinafter *POLICIES ON PRICING AND UNIVERSAL SERVICE*].

To make the transition to the data-friendly network will involve capital outlays. It is not enough that the Internet be able to process data. The loops and switches of the PSN must also be capable of doing so. Given that there is little compensation today for the increased traffic already traversing the network, due at least in part to the ISP access charge exemption, carriers may not be willing to make the investments needed to upgrade the network without a reasonable expectation of capital recovery.

Id.

technologically neutral playing field through regulatory parity.¹⁷ The twin forces of competition and technological advance create a powerful synergy that regulators must embrace by ensuring that regulated entities bear equal burdens or receive adequate compensation.¹⁸ Especially in this competitive context, intercarrier compensation must be sufficient to enable providers to cover their costs and maintain adequate investment in their proprietary networks. The failure of public policy to achieve this intermediate objective jeopardizes the future quality and integrity of the network of networks.

II. THE PUBLICLY SWITCHED TELEPHONE NETWORK (“PSTN”) EVOLVES INTO A “NETWORK OF NETWORKS”

Before the AT&T divestiture in 1984, telephony was provided through the PSTN owned and maintained by monopoly providers, which were regulated by the FCC and the state commissions.¹⁹ Other providers,

17. Thomas W. Bonnett, *The New State Role in Ensuring Universal Telecommunications Services*, in MAKING UNIVERSAL SERVICE POLICY: ENHANCING THE PROCESS THROUGH MULTIDISCIPLINARY EVALUATION 215 (Barbara A. Cherry et al. eds., 1999).

The federal Telecommunications Act, which President Clinton signed into law on February 8, 1996, shattered the social compact that had governed the provision of basic telephone services in this country for most of this century. . . . The explicit terms of the modern social compact in the telephone industry included: the granting of an exclusive monopoly franchise to the local exchange company; the public regulation of both the prices and quality of services to protect consumers; and a rate-setting process that granted reasonable profits to the company's shareholders to ensure that adequate infrastructure investment was maintained. The highly evolved social compact also included the responsibility of the monopoly provider to provide various public service obligations. As defined by Noam, the *universal service obligation* requires a carrier to reach every willing user and desired destination wherever located whereas *common carriage* is the obligation to provide services without discrimination to all users, given a physical plant. A related concept is *carrier of last resort* (COLR), which is the requirement to provide services to all customers within a service area. Hence, granting an exclusive monopoly franchise to the local exchange company along with public regulation of its prices, profits, and infrastructure investments constituted a social compact that was generally accepted by the public for most of this century.

Id. (citations omitted).

18. Sprint Comms. Co., L.P., Col. Pub. Utils. Comm., Decision No. C00-479, Docket No. 00B-011T, 2000 WL 689363, at *2 n.6 (May 5, 2000).

As we move forward, correctly, to the consideration of globally connected communications networks, we need to abandon the archaic approaches to service categorization and regulatory jurisdiction. Regardless of technology or purpose, universal access to equitable connections should be the goal. Whether a call is local, interstate, voice, data, wireless, internet or wireline should not be a determining factor in how the activity is regulated, priced or compensated.

Id.

19. “In the early 1980s, AT&T provided about three-quarters of the nation's local

such as MCI, handled a small percentage of long-distance calls, but even those calls were initiated and/or terminated through the facilities of the local exchange carriers. In this regime of publicly regulated monopoly providers, the PSTN reigned supreme.

Later in the 1980s, more competition emerged in the long-distance market, and competitive access providers (“CAPs”) began to develop local transmission systems to bypass the local exchange carriers.²⁰ Also in this decade, telephony sprouted wings, as the FCC awarded cellular licenses in the top markets to provide mobile, wireless communications.²¹ The PSTN still dominated the telephony market, but the leakage to rival networks had begun.

In 1989, two events changed the world. The Berlin Wall fell, and the New York Public Service Commission (“NY PSC”) allowed competition in the local exchange services. The NY PSC ruling shocked the telecommunications industry. Although competition in the long-distance market had matured since the 1984 AT&T divestiture, few thought the local telephone monopoly would be broken. For most of this century, conventional wisdom held that local exchanges were natural monopolies.²²

Competition in the local exchange market, once viewed as a radical departure from the regime of regulating monopoly providers, swept across the nation as a grass fire might flash across the prairie after a summer drought. By January 1996, “[a]t least 29 states, including New York, [had]

telephone service and almost all interstate long distance service.” FCC, TRENDS IN TELEPHONE SERVICE 1-3 (December 2000), *available at* http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend200.pdf [hereinafter TRENDS].

20. Competitive access providers developed the capacity for large users of long-distance services to make and receive calls, bypassing the local exchange system. This enabled the users to avoid paying the access fees charged to the long-distance carriers by the local exchange company. *Id.* During this period, these access fees—the charge to the long-distance providers for the use of the local exchange networks—were estimated at thirty to forty percent of the cost of the long-distance call. *Id.*

21. When AT&T explained the technology of cellular phones to the FCC in the 1970s, the company did not expect it would become popular, estimating only one million subscribers by the turn of the century. According to TRENDS IN TELEPHONE SERVICE, “there were 92,000 subscribers in 1984, as compared with over 97 million subscribers as of June 2000.” *Id.* at 12-1.

22. The NY PSC had to assess many conflicting factors. Could new firms provide services at better prices than New York Telephone? If so, would competition be limited to premium services for businesses, which would erode the revenue base of the incumbent telephone company and cause higher rates for remaining customers? Could the interconnection rules be written fairly to both the incumbent and prospective entrants? How should physical collocation rules be established to achieve integration between two or more networks? *See* THOMAS W. BONNETT, TELEWARS IN THE STATES: TELECOMMUNICATIONS ISSUES IN A NEW ERA OF COMPETITION 70 (1996) [hereinafter TELEWARS].

approved measures to end telephone monopolies.”²³ Drawing heavily upon the work of state commissions, especially in the area of developing interconnection agreements between rival networks,²⁴ Congress enacted and President Clinton signed into law the Telecommunications Act of 1996 (“1996 Act”).²⁵ It promoted competition in telephone and cable television services, and partially deregulated much of the telecommunications industry.²⁶

The 1996 Act envisioned that competition in local telephone services would take three forms: building facility-based networks, contracting for the use of unbundled network elements (“UNEs”) from the ILECs, and providing resale.²⁷ Building facility-based networks is the most expensive way to compete against the incumbent providers. Examples of this approach include wireless technologies such as cellular and personal communications services (“PCS”); cable television systems upgraded to include switches to provide two-way voice transmission; and the alternative networks built by the CLECs, mostly in urban areas, to serve businesses and larger users.²⁸

The second approach comes from the use of the incumbent’s network in combination with the prospective competitors’ facilities. This requires an interconnection agreement that specifies the terms of the use of the incumbent’s network elements, or the price for transport over the incumbent’s network. If a cable television system wanted to provide telephony, it would have to make a major investment in switches and then negotiate with the incumbent provider to use some of the latter’s facilities in combination with its own network. Similarly, a CLEC might wish to contract for the use of some of the incumbent’s network elements instead of building a parallel network infrastructure.

The third method—resale—occurs when a prospective competitor buys network capacity from the ILEC at wholesale rates and then retails these services directly to consumers. The best example of resale comes from the long-distance industry. More than a decade ago, AT&T sold large blocks of long-distance services to large users. At that time, the FCC forced the company to sell that wholesale capacity at the same rate to

23. Jonathan Rabinovitz, *Competition to Begin for Local Phone Calls, Ending a Monopoly*, N.Y. TIMES, Jan. 6, 1996, at 24.

24. See TELEWARS, *supra* note 22, at 57-74.

25. Pub. L. No. 104-104, 110 Stat. 56 (codified at scattered sections of 47 U.S.C.).

26. TELEWARS, *supra* note 22, at ch. 4-5.

27. See FCC, Local Competition Homepage, at http://www.fcc.gov/ccb/local_competition/ (last visited Jan. 17, 2001).

28. THOMAS W. BONNETT, THE TWENTY-ONE MOST FREQUENTLY ASKED QUESTIONS ABOUT STATE TELECOMMUNICATIONS POLICY 15 (1997).

entrepreneurial companies, which resold those long-distance services directly to the consumers at rates competitive with AT&T's tariffed rates. Until recently, "only the four [or five] largest long-distance companies maintained their own networks, [while] hundreds of smaller companies [bought] capacity from them at wholesale rates and then [resold] services to the public."²⁹

Some consumer advocates have been disappointed that competition in telephone and cable television markets has not advanced more rapidly since the passage of the 1996 Act.³⁰ Expectations of subsequent competition in liberalized markets based on the rhetorical hyperbole surrounding the 1996 Act would have been impossible to meet.³¹

Competition in local telephone markets has begun in all but 18 of the nation's 193 local access and transport areas ("LATAs").³² CLECs have entered the "largest and densest markets first."³³ Revenues "come primarily from special access and local private line services rather than from switched service to end users."³⁴ CLECs continued to gain market share from local services in the first half of 2000. According to FCC data, "CLECs reported 12.7 million (or 6.7%) of the approximately 192 million nationwide local telephone lines that were in service to end-users on June 30, 2000."³⁵ This growth comes from the expansion of the CLEC networks

29. *Id.*

30. MARK COOPER & GENE KIMMELMAN, *THE DIGITAL DIVIDE CONFRONTS THE TELECOMMUNICATIONS ACT OF 1996: ECONOMIC REALITY VERSUS PUBLIC POLICY* vi (1999).

The Telecom Act's fundamental premise that breaking down legal barriers to market entry would unleash a barrage of facilities-based competition in which cable companies used their infrastructure to attack the local phone market, and local phone companies used their networks to attack cable, has proven wrong. Incumbent local telephone and cable monopolists have simply refused to compete with one another. Instead they have merged into larger and larger regional firms that now form tight national oligopolies.

Id.

31. Edmund L. Andrews, *Clinton Set to Sign Bill That Is Expected to Spur Competition*, N.Y. TIMES, Feb. 2, 1996, at A1:

Today, we have broken up two of the biggest government monopolies left: the monopolies in local telephone service and in cable television. . . . For the first time ever, Americans will be given choices. Besides lower rates and better service, the result will be innovative new products and services that will create thousands of new American jobs.

Id. (quoting Rep. Thomas J. Bliley, the bill's primary author).

32. FCC, LOCAL COMPETITION: AUGUST 1999, available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/lcomp99-1.pdf (last visited Jan. 22, 2001).

33. *Id.* at 6.

34. *Id.* at 1.

35. FCC, LOCAL TELEPHONE COMPETITION: STATUS AS OF JUNE 30, 2000 1 (Dec. 2000), available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link

(CLECs' own local loop facilities now provide one-third of their end-user lines), and the increased resale of services and leasing UNEs loops from the ILECs. For example, the CLECs bought 5.7 million lines from the ILECs in mid-2000, which they resold to customers, compared to about 4.6 million at the end of 1999. Similarly, CLECs leased more than three million UNE loops from the ILECs in mid-June—double the number leased at the end of 1999.³⁶ Even though the ILECs remain the dominant providers of local telephone services, the recent growth of market share by the CLECs constitutes a strong beginning for competition in many local telephone markets.³⁷ After Bell Atlantic was allowed to provide long-distance services in New York, it reported gaining 428,000 customers in the first quarter of 2000. This development triggered renewed interest by AT&T and other providers to compete for customers in these local telephone markets.³⁸ One might expect a similar response in Texas now that SBC has been granted permission to provide long-distance telephone services in that state.³⁹ Furthermore, electric utilities, which control about one-third of the nation's 150,000 miles of fiber-optic cable,⁴⁰ have begun to pursue new ventures in the rapidly growing telecommunications market.⁴¹

While 65% of American households subscribe to cable television, 10% now receive television services from direct broadcast satellite ("DBS") (up from less than 2% in 1975). DBS is growing at an annual rate of 40%.⁴² The price of cable television services has increased since 1996, while the cost of these alternative technologies has steadily declined since

/IAD/lcom1200.pdf (last visited Jan. 22, 2001) [hereinafter LOCAL TELEPHONE COMPETITION]. "This represents a 53% growth in CLEC market size during the first six months of this year." *Id.*

36. *Id.* at 1-2.

37. *Id.* at 2. "At least one CLEC reported providing service in the District of Columbia, in Puerto Rico, and in all states except Idaho. Four or more CLECs reported serving customers in 29 states and the District of Columbia." *Id.*

38. Leslie Cauley, *AT&T Faces Challenge Over Cable-Phone Goal*, WALL ST. J., Apr. 28, 2000, at A3. Cauley reports that "AT&T is reselling Bell Atlantic's services under its own name, and has signed up more than 300,000 such customers. . . . But AT&T eventually hopes to flip these customers to its own cable networks or those of partners, because leasing Bell lines is very expensive." *Id.* Cauley also reports that AT&T had 40,000 customers for local telephone services during the first quarter of 2000 using its cable television infrastructure, and was gaining "new cable-telephony customers at a rate of about 15,000 a month." *Id.*

39. Mark Wigfield & Deborah Solomon, *SBC Cleared to Offer Texas Long Distance*, WALL ST. J., July 3, 2000, at B6.

40. Joe Nickell, *When the Power Falls*, THE INDUSTRY STANDARD, June 12, 2000, at 124.

41. Peter S. Goodman, *Linking Old Economy to New*, WASH. POST, June 6, 2000, at E1.

42. Thomas W. Hazlett, *TV Smackdown! (Cable vs. Broadcast)*, WALL ST. J., May 5, 2000, at A16.

then. In addition, several companies have begun to deploy microwave multipoint distribution system ("MMDS"), a fixed wireless technology, often called *wireless cable*, that can transmit multiple television channels and data transmission to provide broadband access to the Internet.⁴³

Wireless technologies represent the greatest potential for competition in local telephone markets and the most immediate threat to the PSTN. Cellular technology began in this country in the 1970s.⁴⁴ In 1984, the FCC granted two cellular licenses in each market area, one to the ILEC and the other by lottery. Many cite the use of additional electromagnetic spectrum allocated by license auction in 1993-94 for cellular and personal communications services ("PCS"), the digital counterpart to cellular as a key step toward unleashing investment in wireless technologies.⁴⁵

Technological advances in manufacturing provided the second key element in unleashing this explosive growth. Two economists have observed, "Cellular telephones sold for \$4,200 in 1984; they're down to less than \$100 today. Some deals are even sweeter: The telephones themselves are often free to customers who sign on with a service provider."⁴⁶ In 1984, there were just 92,000 subscribers to cellular telephone service. By June 1999, it had more than 75 million subscribers. The average monthly bill dropped from \$96.83 in 1987 to just \$45.15 in

43. Nicole Harris, *AT&T's High Wireless Act: Can It Deliver the Web and a Dial Tone?* WALL ST. J., Mar. 2, 2000, at B1; see also Catherine Greenman, *Life in the Slow Lane*, N.Y. TIMES, May 19, 2000, at G8.

Sprint Broadband Wireless Group is testmarketing Sprint Broadband Direct in Phoenix, a multichannel multipoint service the company says is 36 times as fast as a regular dial-up connection. It relies on radio transmission rather than phone or cable lines, and it works with a two-way digital transceiver installed on a rooftop that is pointed toward a radio tower to send and receive signals.

Id.

44. A. MICHAEL NOLL, *HIGHWAY OF DREAMS* 124 (1997).

45. The worst corporate mistake made in the history of telecommunications—or at least since William Orton, president of Western Union, rejected the opportunity to buy the original Bell telephony patents for \$100,000, saying, "What use could this company make of an electric toy?"—was the failure of AT&T to retain the cellular technology as part of its long-distance operations prior to the 1984 divestiture. TELEWARS, *supra* note 22, at 46 n.4.

According to Reed Hundt, former FCC Chairman, AT&T

paid more than \$10 billion to buy McCaw Cellular Communications, Inc., the largest wireless company in America, assembled by Craig McCaw in the early 1980s. Now, McCaw's team, led by Wayne Perry, pushed AT&T to buy more licenses in the auction so as to complete their national footprint in the wireless business and permit them to compete against Sprint and the Bell wireless companies. A half-dozen years later, under the new CEO Mike Armstrong, AT&T found that the licenses won in the auction were an essential part of the armory for battling the local Bell companies for customers.

REED HUNDT, *YOU SAY YOU WANT A REVOLUTION* 95-96 (2000).

46. W. MICHAEL COX & RICHARD ALM, *MYTHS OF RICH & POOR* 45 (1999).

June 2000.⁴⁷

Most industry analysts project that wireless telephony will continue to grow at a fast pace.⁴⁸ With prices steadily dropping, handsets becoming virtually weightless, batteries improving, coverage of areas improving (fewer roaming charges, for example), and new services emerging, such as Internet connections, most experts expect the demand for wireless telephony to continue to grow and usage to increase. The average number of minutes of use increased from 115 minutes per month in 1996 to approximately 400 per month in 1999.⁴⁹ In that same year, two percent of people using a wireless telephone said it was their only telephone, compared to less than one percent in 1998.⁵⁰

Wireless telephony began as a supplement to the PSTN. A call from a cell phone to a wireline phone passes through the local exchange network, and vice versa.⁵¹ Calls made from a cell phone to another cell phone, however, do not flow through the PSTN. For this reason, many experts predict that the subsequent development of wireless networks will define the future of telephony.⁵² The robust trend in developing wireless networks and the underlying engineering logic are persuasive,⁵³ but the prospect for growth raises a new and important issue to public regulators. If the PSTN continues to provide social utility, how can public regulators maintain its high quality and reliability to benefit society as the twin forces of competition and technological innovation sweep us into a new era of

47. TRENDS, *supra* note 19, at 12-1. The Cellular Telecommunications & Internet Association reports 97 million subscribers in June 2000. LOCAL TELEPHONE COMPETITION, *supra* note 36, at 2 n.8.

48. An estimated 90 million Americans had cellular telephones, and 30,000 new subscribers were signing up daily. See *Cell Phones Source of Radiation Fears*, at <http://www.cnn.com/2000/US/07/18/cell.phone.fears.02> (last visited Jan. 22, 2001).

49. Steve Rosenbush, *More Using Cell Instead of Home Phones*, USA TODAY, July 28, 1999, at A1.

50. *Id.*

51. The terms for transporting a call from one network to another constitute part of the voluntarily negotiated interconnection agreement between the two companies.

52. One 1995 prediction hit the target:

The rapid development of wireless technologies and their declining costs provide opportunities for developing a truly contestable local telephone industry. Forecasts of the growth of the wireless telephone have proved far too conservative. . . . By the end of the century, there will likely be one wireless telephone for every three Americans and Canadians.

ROBERT W. CRANDALL & LEONARD WAVERMAN, TALK IS CHEAP: THE PROMISE OF REGULATORY REFORM IN NORTH AMERICAN TELECOMMUNICATIONS 241 (1995).

53. NICHOLAS NEGROPONTE, BEING DIGITAL 24 (1995) (explaining the "Negroponte Switch" as the idea that "the information currently coming through the ground (read, wires) will come in the future through the ether, and the reverse. Namely, what is in the air will go into the ground and what is in the ground will go into the air.").

telecommunications?⁵⁴

Perhaps most social communications will be digital in the future.⁵⁵ If so, how can the structural integrity of the PSTN be maintained during this transitional period? Put polemically, will the PSTN, subject to discriminatory taxation by state and local governments⁵⁶ and heavy regulation at the federal and state levels,⁵⁷ become the bankrupted railroads of the twenty-first century?⁵⁸

54. Maintaining the integrity of the PSTN, as a priority objective of regulators, is generally understood. Yet, policies reflect this principle better when the FCC imposes universal service support requirements on wireless carriers as opposed to when the FCC reaffirms that enhanced services are exempt from paying access fees to the local exchange carriers. See Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 F.C.C.R. 11,501, para. 64, 11 Comm. Reg. (P & F) 1312 (1998). "It is important that regulators encourage transformation of the [public switched network] from primarily a voice network into one which can process any type of traffic desired whether it be voice, data, or video." POLICIES ON PRICING AND UNIVERSAL SERVICE, *supra* note 16, at 37.

55. "Like a force of nature, the digital age cannot be denied or stopped. It has four very powerful qualities that will result in its ultimate triumph: decentralizing, globalizing, harmonizing, and empowering." NEGROPONTE, *supra* note 53, at 229.

56. See COMM. ON STATE TAXATION, 50-STATE STUDY AND REPORT ON TELECOMMUNICATIONS TAXATION (1999); see also TELEWARS, *supra* note 22, at 116.

For most of this century, telephone companies were regulated monopolies. As such, they and other public utilities were convenient sources of revenue for state and local governments. Indeed, regulators generally allowed taxes on public utilities to be passed through to ratepayers. State and local taxes had little incidence on corporate profits, because regulators were using rate of return (not unlike a cost-plus approach) to set telephone and utility rates. This was a sweet deal for state and local administrators. Few companies protested very long or very hard, because most of the tax burden was simply passed along.

Id.

57. Robert W. Crandall, *Waves of the Future: Are We Ready to Deregulate Telecommunications*, BROOKINGS REV., Winter 1996, at 29.

The question is why we need federal regulation of voice, data, or video services at all when any of several companies can offer hundreds of video channels, local wireless telephone services, or long-distance voice and data services. Each new generation of technology can offer these services at a small fraction of the cost incurred by the previous one, built just a few short years ago. Monopoly power may exist in certain segments of the industry, particularly local telephony, but not for long under these conditions as long as regulators do not stand in the way.

Id.

58. John Markoff, *Ethernet Finds New Level*, N.Y. TIMES, June 5, 2000, at C1.

Telephone industry technologies have been designed to ensure that data packets carrying voice telephone calls have priority passage through the network, even during peak traffic periods. That capability adds to the complexity and cost of conventional telecommunications data networks, but it also gives voice conversations a reliable sound quality that Ethernet or standard Internet formats cannot yet match. But service providers like Yipes intend to plunge in to the lucrative voice market by guaranteeing customers a minimum quality of service—whether for voice or data—that the companies say they will be able to meet by designing their networks to handle bursts of high-data traffic.

Id.

The analog circuits of the PSTN face another challenge from emerging data packet networks. The merger of computing and communications, both of which employ binary data, will define the digital future.⁵⁹ Data can be transmitted in combinations of packets via the IP quickly and cheaply.⁶⁰ Density and distance are the two cost factors that affect voice transmission using analog circuits.⁶¹ Neither physical attribute has any bearing on the cost of data transmission using IP.⁶² The technological advance of telephony using data packet transmission poses the greatest long-term challenge to the established PSTN.⁶³ In the interim, IP telephony will require access to the local loop, and the terms of that access—a topic discussed in Part III of this Article—should become the top priority of public regulators at the federal and state levels.

Two decades ago, the PSTN was a proprietary system owned and maintained by monopoly providers, which were publicly regulated. As cable television adapts its systems to offer telephony, the PSTN will

59. See FRANCES CAIRNCROSS, *THE DEATH OF DISTANCE: HOW THE COMMUNICATIONS REVOLUTION WILL CHANGE OUR LIVES* (1997).

60. The conventional circuit-switched network uses an end-to-end path for each transmission. In contrast, the Internet uses a “distributed packet-switched network, which means that information is split up into small chunks or ‘packets’ that are individually routed through the most efficient path to their destination.” Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 F.C.C.R. 11,501, para. 64, 11 Comm. Reg. (P & F) 1312 (1998).

61. CRANDALL & WAVERMAN, *supra* note 52, at 80-84.

62. BRUCE M. OWEN, *THE INTERNET CHALLENGE TO TELEVISION* 178-79 (1999).

The interconnected networks that today make up the “backbones” of the Internet are very different in structure from the telephone model. They are entirely digital. Communications from one point to another do not utilize “connections” or open channels between the points. Instead, each message is processed by the computer at its point of origin into bundles of bits called “packets.” Each packet (of perhaps a few hundred bits) contains a small part of the message content. . . . Each packet is transmitted to the nearest “router.” A router has much the same function as a switch, except that it does not establish connections. Each router in the system is connected to several other routers. As packets arrive at a router, the router decides by which transmission path to send them onward toward their final destination. Typically, many paths are available.

Id.

63. Seth Schiesel, *Cisco Takes Internet Phones to Next Stage*, N.Y. TIMES, March 27, 2000, at C4.

Cisco intends to announce an office telephone system based on Internet technology. The system, which transmits voice calls in the electronic language of the Internet, could push the company to the top of the budding Internet-telephone market. Proponents say such systems bring new convenience, efficiency and cost-savings to corporate communications. . . . “The networks that can’t do data, voice and video are dinosaurs,” Mr. Chambers [of Cisco] said in an interview on Friday. “We’re going to see open standards for any new telecommunications or computer product to connect to one network. This is the first gauntlet thrown down in that direction.”

Id.

interconnect with them. Currently, wireless telephony networks supplement and complement the PSTN, but in the not-so-distant future, wireless telephony will certainly compete with, and perhaps supplant, the PSTN. Regardless, voice telephony via IP will be the next great revolution in telecommunications,⁶⁴ and pose a far greater challenge to those responsible for maintaining the integrity of the PSTN.⁶⁵

III. DUAL REGULATION OF THE PSTN

The United States is the only nation with a dual system of public regulation of its telephone network.⁶⁶ “In 1907, Wisconsin and New York became the first states to regulate the telephone companies, preempting cities that had granted the initial franchise authority to both Bell and independent companies.”⁶⁷ In cities with populations of more than 5,000 at the beginning of the twentieth century, more than half of the Bell exchanges had local competitors. Twenty-six states enacted laws between 1907 and 1913 mandating the physical interconnection of competing telephone companies.⁶⁸ Nevertheless, the frustrations of having dual telephone systems that did not interconnect proved a compelling argument that granting an exclusive franchise to one monopoly provider, regulated by

64. Thus far, voice over Internet protocol (“VoIP”) has caused a rather modest shift of traffic away from traditional long-distance and international carriers. In the short term, its greatest application will be by corporations with multiple locations that lease private (virtual) networks from traditional carriers, which will result in substantial cost savings. Jennings, *supra* note 11, at 7. See, e.g., Margret Johnston, *ComNet: AT&T Launches VoIP Portfolio* (Jan. 30, 2001), at <http://www.nwfusion.com/news/2001/0130attvoip.html> (stating that “[AT&T] is offering voice-over-IP retail services for business, allowing the combination of voice, fax and data traffic on a single integrated IP connection managed by AT&T”).

65. JASON OXMAN, THE FCC AND THE UNREGULATION OF THE INTERNET 25-26 (Office of Plans and Policy FCC, Working Paper No. 31, 1999), at http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf (last visited Jan. 22, 2001).

As bypasses to the monopoly local network, like satellite, wireless, and cable, are increasingly available, and IP technologies over a variety of media make the single pipe into the home seem like the distant past, there will undoubtedly be calls for the Commission to step in and level the playing field. . . . Where once data communications were offered “over” the voice network, the network of the future promises voice services as just another data offering.

Id.

66. Paul Teske, *Introduction and Overview*, in AMERICAN REGULATORY FEDERALISM & TELECOMMUNICATIONS INFRASTRUCTURE 3, 4 (Paul Teske ed., 1995) [hereinafter *Introduction and Overview*].

67. David Gabel, *Federalism: An Historical Perspective*, in AMERICAN REGULATORY FEDERALISM & TELECOMMUNICATIONS INFRASTRUCTURE 19, 34 (Paul Teske ed., 1995).

68. RICHARD H.K. VIETOR, CONTRIVED COMPETITION: REGULATION AND DEREGULATION IN AMERICA 171 (1994).

the public, was superior to competition among rival systems.⁶⁹ Not coincidentally, it was also the argument made by Theodore Vail, the head of AT&T, whose slogan was "One Policy, One Service, Universal Service."⁷⁰

When Congress enacted the Mann-Elkins Act in 1910 (to reform railroad regulation), it gave the Interstate Commerce Commission ("ICC") authority to regulate telephone and telegraph companies as "common carriers."⁷¹ Rates were to be "just and reasonable."⁷² Federal regulation was limited to interstate commerce, and most historians conclude that the ICC was an ineffective regulator. Two federal actions during this formative period merit a brief word: the Kingsbury Commitment⁷³ and the Willis-Graham Act of 1921.⁷⁴ While the former relied upon the antitrust law to prevent AT&T's aggressive effort to consolidate this industry, the latter reversed course and allowed the consolidation of the telephone companies.

69. *See id.* "Competition resulted in duplication of investment, the necessity for the business man maintaining two or more telephones, economic waste to the company, increased burden, and consequent continuous loss to the subscriber. The policy of the state was to eliminate this by eliminating as far as possible[] duplication." *Id.*

70. *Id.*; *see also* MILTON L. MUELLER, JR., *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM* 153-70 (1996).

71. Commerce Court (Mann-Elkins) Act, Pub. L. No. 218, ch. 309, 36 Stat. 539, 544 (1910) (amending Interstate Commerce Act of 1887, ch. 104, § 1, 24 Stat. 379, 379 (1887)) (provisions relating to telegraph, telephone, and cable companies repealed by Communications Act of 1934, ch. 652, 48 Stat. 1064).

72. VIETOR, *supra* note 68, at 171.

73. *Id.* at 172.

In 1912, in response to widespread complaints, the U.S. Department of Justice began investigating AT&T's competitive practices. . . . In December 1913[,] Nathan Kingsbury, a vice-president of AT&T, outlined the terms of this agreement in a letter to the attorney general. There were three key provisions. First, AT&T would sell Western Union, which it had acquired in 1909. Second, it would cease buying up independent telephone companies "operating in competition with the Bell System." And third, it would henceforth allow qualified phone lines to connect with the Bell System, for interexchange and long-distance service.

Id.

74. Willis-Graham Act of 1921, ch. 20, 42 Stat. 27 (repealed by Communications Act of 1934, ch. 652, 48 Stat. 1064, 1102). Vietor set out the history of this Act:

In 1921[,] Congress obliged by passing the Willis-Graham Act, which explicitly permitted consolidation of competing telephone companies. Competition, evidently, was out of vogue. "It is believed to be better policy," declared Representative William J. Graham (a Republican from Illinois), "to have one telephone system in a community that serves all the people, even though it may be at an advanced rate, properly regulated by State boards or commissions, than it is to have two competing telephone systems." The Senate Commerce Committee simply asserted that "telephoning is a natural monopoly."

VIETOR, *supra* note 68, at 173.

Most states had established public utility commissions (“PUCs”) soon after World War I to regulate local and intrastate telephone services.⁷⁵ Motivations underlying this approach included consumer protection (i.e., the concern that telephone companies might use their market power to overcharge consumers); the desire for rival networks to physically interconnect to eliminate duplication and increase the value of these networks to more users; and the progressive notion that state regulation of business was an enlightened policy for expanding and improving quasi-public goods such as telephone services.⁷⁶ Despite creating PUCs to act in the public interest, state legislatures found little success in attempting to define this public interest or explaining how it might be achieved.⁷⁷

The Communications Act of 1934 (“1934 Act”) created the FCC to regulate long-distance telephone service, shifting that responsibility from the ICC and the radio broadcasting industry (replacing the Federal Radio Commission).⁷⁸ Contrary to conventional wisdom, the preamble to the 1934 Act did not establish universal service as a primary social objective.⁷⁹ Indeed, the rising affluence of American society during the last two-thirds of the twentieth century had a greater impact on expanding access to basic telephone services (as measured by the rising percentage of households with telephones) than the actions of public regulators during this period.⁸⁰

75. “[S]tate regulatory commissions were first created in the late 1880s (in Massachusetts) but then were inaugurated with sudden uniformity in the decade and a half following 1907. . . . [B]y 1922, electric regulatory commissions had been introduced in thirty-seven of the forty-eight states and gas commissions in eighteen of twenty large states.” George L. Priest, *The Origins of Utility Regulation and the ‘Theories of Regulation’ Debate*, 36 J.L. & ECON. 289, 296 (1993).

76. TELEWARS, *supra* note 22, at 49-50.

77. Gabel, *supra* note 67, at 25.

Neither the hearings nor the legislation that authorized the establishment of state public utility commissions (PUCs) provides much insight into the policies that the legislature wanted the PUCs to pursue. Although they were clearly concerned that rates be “fair,” there was little guidance as to how these agencies should balance fairness with policies that promoted the state’s infrastructure. Instead, as is often the case with the U.S. legislative process, broad authority was granted to the delegated agency.

Id. See also Bob Rowe, *Substance Plus Process—Telecom Regulation Reforms to Protect Consumers, Preserve Universal Service, and Promote Competition*, 71 U. COLO. L. REV. 879 (2000).

78. Communications Act of 1934, ch. 652, 48 Stat. 1064 (codified as amended at scattered sections of 47 U.S.C.).

79. MUELLER, *supra* note 70, at 247-68. “The subject of universal service, in either its modern or classical sense, did not appear in the deliberations.” *Id.* at 256.

80. *Id.* at 259-60. “[I]t took more than 70 years for the telephone to penetrate half of American households. In 1920, 35 percent had telephones; in 1940, 36.9 percent did; in 1960, 78.3 percent; and in 1980 and again in 1990, 93 percent. Currently, about 94.3 percent of U.S. households have telephones.” TELEWARS, *supra* note 22, at 47 n.9.

Sections 1 and 2(a) of the 1934 Act gave the FCC exclusive authority to regulate interstate communications.⁸¹ The states were concerned that this new federal agency would preempt their authority to regulate intrastate communications and were successful in getting sections 2(b) and 221(b) added, which preserved state authority over “charges, clarifications, practices, or regulations for or in connection with intrastate common carriage.”⁸² Hence, the regime of dual regulation continued, and perhaps for good reason; in 1934, ninety-eight percent of all calls were intrastate.⁸³ Yet, Henry Geller, a former General Counsel to the FCC, observed pungently: “[N]owhere does the [1934] Act come to grips with the stark reality that the same telephone plant is used to carry both interstate and intrastate traffic.”⁸⁴

If the PSTN provides three services—long-distance calls across state borders, intrastate toll calls, and local calls—how should public regulators apportion the costs of these services? This issue of separations has befuddled several generations of economists and regulators. In 1930, the Supreme Court heard appellants in a Chicago rate case contend that “local rates were too high because all the cost of the fixed plant was allocated to intrastate service.”⁸⁵ In *Smith v. Illinois Bell*, the Court determined that “because toll calls required the existence of local networks, toll call prices should include a contribution toward paying these local costs.”⁸⁶ For the last seven decades, the separations issue has dominated the agenda of public regulators.⁸⁷

The primary interests of both state and federal regulators were aligned during most of the middle third of the twentieth century. Eli Noam presents this excellent summary:

81. Communications Act of 1934 §§ 1, 2, 47 U.S.C. §§ 151, 152 (1994 & Supp. IV 1998).

82. Eli Noam, *The Federal-State Friction Built into the 1934 Act and Options for Reform*, in AMERICAN REGULATORY FEDERALISM & TELECOMMUNICATIONS INFRASTRUCTURE 113-14 (Paul Teske ed., 1995) [hereinafter *Federal-State Friction*].

83. *Id.* at 120.

84. Henry Geller, *Legal Issues in Preemption*, in AMERICAN REGULATORY FEDERALISM & TELECOMMUNICATIONS INFRASTRUCTURE 125, 127 (Paul Teske ed., 1995).

85. VIETOR, *supra* note 68, at 180.

86. *Introduction and Overview*, *supra* note 66, at 7-8; see *Smith v. Illinois Bell Tel. Co.*, 282 U.S. 133 (1930).

While the difficulty in making an exact apportionment of the property is apparent, and extreme nicety is not required, only reasonable measures being essential . . . it is quite another matter to ignore altogether the actual uses to which the property is put. It is obvious that, unless an apportionment is made, the intrastate service to which the exchange property is allocated will bear an undue burden—to what extent is a matter of controversy.

Id. at 151.

87. For an explanation of the current status of this accounting challenge, see Rowe, *supra* note 77, at n.36.

[T]here emerged from the late 1930s and into the 1970s a remarkable system of *co-regulation*, characterized by a substantial cooperative spirit. The states were mostly in charge of local service; the FCC was mostly in charge of long-distance service. Both were solicitous of AT&T, which steadily extended service throughout the nation at declining real rates and established what was widely recognized as the best telephone system in the world. Moreover, AT&T's financial stability throughout this period made it a model investment for many Americans, creating still another broad constituency in favor of the status quo.⁸⁸

What Noam politely and accurately calls the era of “co-regulation” might be called collusion by most economists and a few revisionist historians.⁸⁹ Throughout this period, an increasing share of the costs of maintaining the PSTN was allocated to long-distance service. This provided the cross-subsidy that kept rates for residential services low. Federal regulators acquiesced in allocating costs to long distance because, according to Noam, they “had the rare privilege to preside over an industry segment whose prices dropped as performance rose.”⁹⁰ By 1980, less than eight percent of telephone usage was long-distance, while twenty-six percent of the telephone plant cost was allocated to interstate long-distance.⁹¹

Beginning in the 1960s and throughout the 1970s, the interests of state regulators (primarily to keep residential rates low) were aligned with the interests of AT&T (to prevent competition in terminal equipment and in long-distance services). Protecting the secure revenue stream from these restricted activities was essential to the company and provided the cross-subsidy for low residential rates. The FCC, however, gradually demonstrated a more tolerant view of allowing competition to emerge in these restricted markets.⁹²

The unraveling of co-regulation began with the FCC's 1968 *Carterfone Device* ruling, which allowed subscriber-owned terminal equipment to connect to the PSTN.⁹³ Led by North Carolina, several states challenged the authority of this FCC decision. In their view, the authority

88. *Federal-State Friction*, *supra* note 82, at 115.

89. The FCC could have lowered long-distance rates to reflect the declining costs of this service, but that would have pushed local residential rates higher. Instead, the FCC allowed long-distance rates to remain stable, allowing them to generate a growing share of total telephone costs.

90. *Federal-State Friction*, *supra* note 82, at 116.

91. VIETOR, *supra* note 68, at 183.

92. See Robert W. Crandall, AFTER THE BREAKUP: U.S. TELECOMMUNICATIONS IN A MORE COMPETITIVE ERA 19-22 (1991).

93. See *Use of Carterfone Device in Message Toll Telephone Service*, 13 FCC.2d 420, 13 Rad. Reg.2d (P & F) 597 (1968).

to regulate terminal equipment fell within the powers delegated to the states in section 2(b)(1) of the 1934 Act, which provides that "nothing in this Act shall be construed . . . to apply or to give the [FCC] jurisdiction with respect . . . to intrastate communication service . . . of any carrier."⁹⁴ The handset in the customer's home affected interstate communications, the Fourth Circuit Court of Appeals concluded, upholding the FCC's authority on this matter.⁹⁵ Indeed, the court suggested that state jurisdiction was limited to local services, facilities, and matters "that in their nature and effect are separable from and do not substantially affect the conduct or development of interstate communications."⁹⁶ This ruling, Noam concludes, "in effect mooted the 1934 Act's separation of intrastate and interstate that had been the legal linchpin of the cooperative system."⁹⁷

The second development that split public regulators was the *Execunet* decision that allowed rival long-distance carriers to interconnect with the traditional telephone network.⁹⁸ Many state public utility commissioners had long opposed competitive entry into the long-distance market because AT&T's revenue stream was artfully used, through the separations process, to subsidize residential rates.⁹⁹ State regulators were also unhappy with the FCC's approach to reform the separation process following the divestiture of AT&T because of the 1982 consent decree.¹⁰⁰ In 1984, the FCC imposed

[a] new system of access charges that provided a uniform method for local telephone companies to charge long distance carriers for the origination and termination of interstate traffic on their local networks. In addition, monthly subscriber line charges (SLCs) were introduced to recover a portion of the fixed costs of the local telephone companies' loops directly from end users on a per-line basis.¹⁰¹

Many state regulators opposed the AT&T divestiture and the new SLCs because they did not want local telephone bills to increase.¹⁰² Nevertheless, the public widely felt the rate shock of divestiture. The Bell

94. 47 U.S.C. § 152(b)(1) (1994).

95. *North Carolina Utils. Comm'n v. FCC*, 537 F.2d 787 (4th Cir. 1976).

96. *Id.* at 793.

97. *Federal-State Friction*, *supra* note 82, at 116.

98. *Id.* at 117; *see also* *MCI Telecomms. Corp. v. FCC*, 561 F.2d 365 (D.C. Cir. 1977) ("*Execunet I*"); *MCI Telecomms. Corp. v. FCC*, 580 F.2d 590 (D.C. Cir. 1978) ("*Execunet II*").

99. *Federal-State Friction*, *supra* note 82, at 116-17.

100. For a good summary of the consent decree, known as the Modified Final Judgment, *see* GERALD W. BROCK, *TELECOMMUNICATIONS POLICY FOR THE INFORMATION AGE* 161-72 (1996).

101. *TRENDS*, *supra* note 19, at 1-3.

102. Roger G. Noll, *State Regulatory Responses to Competition and Divestiture in the Telecommunications Industry*, in *ANTITRUST AND REGULATION* 165 (Ronald E. Grieson ed., 1986).

companies requested \$7 billion in rate increases during the eighteen months following the Modified Final Judgment.¹⁰³ Sharon Nelson, a Washington state regulator, divided this period into three Rs. The first was “reaction” to divestiture.¹⁰⁴ The late 1980s was a period of “retrenchment,” in part because the 1986 Tax Reform Act reduced the taxes paid by the local telephone companies.¹⁰⁵ Nelson predicted that the third R in the 1990s would be a “restructuring” phase that would include innovative regulatory policies and the deregulation of competitive services.¹⁰⁶

A. The Adverse Effects Test and FCC Preemption of State Authority

The courts have often sustained federal preemption by the FCC, much to the displeasure of the state PUCs. In *Brookhaven Cable TV, Inc. v. Kelly*, the Second Circuit sustained the FCC’s preemption of “state and local price regulation of special pay cable programming.”¹⁰⁷ In *Capital Cities Cable, Inc. v. Crisp*, the Supreme Court sustained FCC preemption “when compliance with both state and federal law is impossible, . . . or when the state law ‘stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.’”¹⁰⁸ And in *City of New York v. FCC*, the Court sustained the FCC preemption of state technical standards governing cable television.¹⁰⁹ Following the logic of *Carterfone*, the FCC’s *Arco* decision, which allowed users to interconnect with the local exchange when it is “privately beneficial without being publicly detrimental,”¹¹⁰ was also upheld by the D.C. Circuit.¹¹¹ Noam contends that this ruling “marked a significant step toward breaking the grip of state jurisdiction on

103. *Id.* at 166; PAUL TESKE, AFTER DIVESTITURE: THE POLITICAL ECONOMY OF STATE TELECOMMUNICATIONS REGULATION 40 (1990) [hereinafter AFTER DIVESTITURE].

State regulators approved \$10.5 billion in rate hikes from 1982 to 1986, out of \$70 billion in annual [Bell operating companies] revenues. The high-water point of these increases was 1984 in which \$3.9 billion in rate hikes were approved, representing 53 percent of telephone company requests. . . . Thus, the telephone companies sought substantial rate relief in the five years after the Consent Decree and state regulators granted about half of the requests.

Id.

104. Sharon L. Nelson, *Policy Directions for the Future*, in AFTER THE BREAKUP: ASSESSING THE NEW POST-AT&T DIVESTITURE ERA 66, 67-75 (Barry G. Cole ed., 1991).

105. *Id.*

106. *Id.*

107. See Geller, *supra* note 84, at 125-33; *Brookhaven Cable TV, Inc. v. Kelly*, 573 F.2d 765, 767 (2d Cir. 1978).

108. *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. 691, 699 (1984) (quoting *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941)).

109. *City of New York v. FCC*, 486 U.S. 57, 63-64 (1988).

110. *Atl. Richfield Co., Memorandum Opinion and Order*, 3 F.C.C.R. 3089, para.1, 64 Rad. Reg.2d (P&F) 1535 (1988).

111. *Pub. Utils. Comm’n of Tex. v. FCC*, 886 F.2d 1325 (D.C. Cir. 1989).

switching.”¹¹²

These decisions reflected an “adverse effects test” first articulated in *North Carolina Utilities Commission v. FCC*.¹¹³ If the FCC could establish that a state action adversely affected a matter that the Commission had authority to supervise, then the courts would sustain the federal preemption. The courts moved away from the adverse effects test in *Louisiana*¹¹⁴ and *California*.¹¹⁵ The FCC had tried to preempt the states from using more liberal depreciation rules in setting local rates. The Supreme Court in *Louisiana* ruled that section 2(b) granted state authority on this issue. There were, said the Court, “two hands on the steering wheel.”¹¹⁶ According to the Court, section 2(b) limits the FCC’s power because it “fences off from FCC reach or regulation intrastate matters—indeed, including matters ‘in connection with’ intrastate service.”¹¹⁷ In *California*, the Ninth Circuit disapproved of the federal preemption of state regulation of intrastate common carrier services provided on FM subcarrier frequencies, despite the FCC’s argument that “state action would conflict with the public interest licensing determination of the FCC, restrict the beneficial use of the radio spectrum, and frustrate the FCC’s efforts to encourage competition.”¹¹⁸ This court relied upon the original interpretation of section 2(b) in overruling the FCC, yet it noted that the FCC had made “a persuasive case in support of its policy objective, but that case must be made to Congress and not to this court.”¹¹⁹

Congress did not take very long to heed this message. In the Omnibus

112. *Federal-State Friction*, *supra* note 82, at 118.

113. Noam used this term to summarize *North Carolina Utils. Comm’n v. FCC*, 537 F.2d 787, 793 (4th Cir. 1976). “The court said, in essence, that if the FCC believed a state’s action was adversely affecting federal regulation, the court would support the FCC.” *Federal-State Friction*, *supra* note 82, at 119.

The Commission must remain free to determine what terminal equipment can safely and advantageously be interconnected with the interstate communications network and how this shall be done. We have no doubt that the provisions of section 2(b) deprive the Commission of regulatory power over local services, facilities and disputes that in their nature and effect are separable from and do not substantially affect the conduct or development of interstate communications. But beyond that, we are not persuaded that *section 2(b) sanctions any state regulation, formally restrictive only of intrastate communication, that in effect encroaches substantially upon the Commission’s authority under sections 201 through 205.*

North Carolina Utils. Comm’n, 537 F.2d at 793 [emphasis added].

114. *Louisiana Pub. Serv. Comm’n v. FCC*, 476 U.S. 355 (1986).

115. *California v. FCC*, 905 F.2d 1217 (9th Cir. 1990).

116. *Louisiana Pub. Serv. Comm’n*, 476 U.S. at 364.

117. *Id.* at 370.

118. Geller, *supra* note 84, at 129; *see California v. FCC*, 798 F.2d 1515 (D.C. Cir. 1986).

119. *California*, 798 F.2d at 1518.

Budget Reconciliation Act of 1993,¹²⁰ Congress “amended Section 332 of the [1934] Act . . . to mandate regulatory parity for all commercial mobile radio services and to foreclose state regulation of those services in certain areas.”¹²¹ This new provision gave the FCC express authority to regulate traditional radio common carriers and competitive private carriers, and preempted state and local governments from regulating “the entry of or the rates charged by any commercial mobile service or any private mobile service.”¹²² Hence, Congress had “removed from state purview all rate or entry regulation of the fastest growing segment of the telecommunications industry. . . . It did so in the belief that the traditional jurisdictional demarcation mandated by Section 2(b) would prove unworkable for mobile services, which . . . ‘by their nature, operate without regard to state lines.’”¹²³

The Telecommunications Act of 1996 (“1996 Act”) sought to promote competition;¹²⁴ to achieve this goal, section 253(a) declares, “No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.”¹²⁵ The last clause of this section gives the FCC authority to preempt any state or local action that violates (a) or (b) of section 253.¹²⁶ Clearly, Congress was granting substantial authority to the FCC to preempt state or local actions that prevented competition in telecommunications service. This unambiguous language reflects the national policy priority given to competition, superseding the traditional state role in regulating local

120. Pub. L. No. 103-66, § 6002, 107 Stat. 312, 392 (1993).

121. Jeffrey Tobias, “*Notwithstanding Section 2(B). . .*”: *Recent Legislative Initiatives Affecting the Federal-State Balance in Telecommunications Regulation*, in *AMERICAN REGULATORY FEDERALISM & TELECOMMUNICATIONS INFRASTRUCTURE* 133, 134 (Paul Teske ed., 1995).

122. 47 U.S.C. § 332(c)(3)(A) (1994).

123. Tobias, *supra* note 121, at 135 [citation omitted].

124. The 1996 Act was designed “[t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers” Telecommunications Act of 1996, Preamble, Pub. L. No. 104-104, 110 Stat. 56, 56.

125. Telecommunications Act of 1996 § 253(a), 47 U.S.C. § 253(a) (Supp. IV 1998).

126. Section 253(d) states:

Preemption—If, after notice and an opportunity for public comment, the Commission determines that a State or local government has permitted or imposed any statute, regulation, or legal requirement that violates subsection (a) or (b) of this section, the Commission shall preempt the enforcement of such statute, regulation, or legal requirement to the extent necessary to correct such violation or inconsistency.

Id. § 253(d).

telephone service.¹²⁷ At the time of the enactment of the 1996 Act, as many as twenty states had some regulation, statute, or constitutional provision that prohibited competition in local telephone service.¹²⁸

Section 251 of the 1996 Act spells out the three pathways of competition: facilities-based competition, resale, and UNEs. To facilitate this new era of competition, this section describes the interconnection requirements of telecommunications carriers.¹²⁹ Section 252 of the 1996 Act established the process for implementing these interconnection agreements among various carriers, including an important role for the state commissions in mediating and arbitrating disputes.¹³⁰ This legislation granted the FCC substantial authority to promulgate the new rules necessary to implement the many features of this important initiative. The *Local Competition Order*¹³¹ provoked huge controversies on pricing issues and, of course, on the jurisdictional question.

The ILECs opposed the FCC pricing rules, arguing that the forward-looking economic approach to pricing constituted a regulatory taking.¹³² The state commissions opposed the FCC rulemaking, because they claimed section 252 retained state authority over retail prices and service. The states were willing to accept advice from the FCC on matters such as wholesale pricing rules, but argued that the FCC did not have the authority to impose a pricing methodology on the states.¹³³ The Eighth Circuit issued a stay on the FCC rules, and then overturned most of them, ruling that the

127. After embracing competition, the legislation also reaffirmed the state role in regulating intrastate telephone services:

Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis and consistent with section 254 of this title, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.

Id. § 253(b).

128. TELEWARS, *supra* note 22, at 79.

129. 47 U.S.C. § 251.

130. *Id.* § 252.

131. See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 and Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, *First Report and Order*, 11 F.C.C.R. 15,499, 4 Comm. Reg. (P & F) 1 (1996).

132. AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366 (1999), *cert. granted sub nom.* Verizon Comms., Inc. v. FCC, 2001 U.S. LEXIS 947 (Jan. 22, 2001). See J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (1998); see also David Gabel & David Rosenbaum, *Who's Taking Whom: Some Comments and Evidence on the Constitutionality of TELRIC*, 52 FED. COMM. L.J. 239 (March 2000).

133. "While the rules were stayed, states generally adopted the FCC's TELRIC rules voluntarily." Rowe, *supra* note 77, at 891 n.40.

Commission had exceeded its authority.¹³⁴ In a decisive victory for the FCC, the Supreme Court in 1999 upheld the FCC's jurisdiction and most aspects of its *Order*.¹³⁵ The Court conceded that the 1996 Act was vague in some respects, but affirmed the FCC's rulemaking authority to implement the local competition provisions of the Act.¹³⁶ If there remain "two hands on the steering wheel," then the FCC's firm grip clearly dominates.

B. Summary of Historical Themes

This broad review of a century of dual regulation of the telephone system presents several major themes.¹³⁷ Twice regulatory powers were passed to a higher level of government. At the beginning of the twentieth century, when telephony was expanding beyond city borders, the states formed PUCs to regulate the terms and conditions of public utilities, which preempted city officials who granted municipal franchises to competing telephone companies. At the end of the century, Congress granted additional authority to the FCC, preempting the traditional authority of state commissions to regulate intrastate telephone services and operations: first, in 1993, with the Omnibus Budget Reconciliation Act to regulate wireless telephony; and second with the 1996 Act, which promoted competition in the local exchange markets.

Adding section 2(b) to the 1934 Act retained state jurisdiction for the middle third of the twentieth century. The era of co-regulation thrived, largely because the generous revenue stream from AT&T's protected activities (long-distance service and equipment manufacturing) enabled it to sustain investment in the infrastructure and provided mutual benefits to

134. *Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 800, 804-06 (8th Cir. 1997). The Court of Appeals concluded that 47 U.S.C. § 152(b) and section 2(b) of the 1934 Act created a presumption in favor of preserving state authority over intrastate communications—a presumption it described as a fence “hog tight, horse high, and bull strong, preventing the FCC from intruding on the states’ intrastate turf.” *Id.* at 800.

135. *AT&T Corp.*, 525 U.S. 366.

136. *Id.* at 397.

137. A century ago, the governing institutions of this nation were not capable of protecting competition in the telephone industry. During those first decades, the federal government failed to use its antitrust authority to constrain the aggressive appetite of AT&T as it bought rival telephone companies, and also failed to make meaningful efforts to regulate long-distance services. *See VIETOR, supra* note 68, at 166-79. State commissions, similarly, were unsuccessful in forcing interconnection between the Bell and independent companies. *See Gabel, supra* note 67, at 20-28. These notable failures resulted in a regime of publicly regulated monopoly providers, a system that unraveled in the last decades of the twentieth century. The current policy of allowing competition in telecommunications will require the prudent discipline of our governing institutions to create and preserve a level playing field among providers that will enable investment, competition, and technological innovation to flourish.

the company and to society. When the FCC intermittently allowed competition in these previously restricted markets (*Carterfone* in 1968 and *Execunet* in 1977), these actions jeopardized the cross-subsidies that had kept residential rates low. The FCC's cautious drift toward allowing competition in previously restricted markets provoked the opposition of the state commissions, ending the era of co-regulation.

The courts have generally upheld the FCC in most jurisdictional disputes with state commissions. The adverse effects test (granting the presumption in favor of the FCC) was pulled back by the *Louisiana* decision that restored the original intent of section 2(b) of the 1934 Act.¹³⁸ The 1999 Supreme Court decision upholding the FCC's authority to implement rules guiding local competition strongly reaffirms the adverse effects test.¹³⁹ In subsequent jurisdiction disputes, the FCC is likely to prevail over the state commissions as long as the agency can establish that state action is adverse to FCC policy priorities and those priorities flow from federal law and powers given to it by Congress.

IV. ISP-BOUND TRAFFIC IS INTERSTATE: WHO MAKES THE CALL?

Section 252 of the 1996 Act encourages voluntary agreements between ILECs and new entrants.¹⁴⁰ These agreements establish the terms and conditions for interconnection and each service or network element made available by either party. This section articulated several important functions to the state commissions facilitating these negotiations. Parties may ask the state commissions to participate in these negotiations and mediate differences.¹⁴¹ Similarly, the commissions may arbitrate open issues, upon petition of either party, if negotiations are not successful.¹⁴² Finally, "[a]ny interconnection agreement adopted by negotiation or arbitration shall be submitted for approval to the State commission."¹⁴³ Hundreds of interconnection agreements were negotiated in the months following the passage of the 1996 Act.¹⁴⁴

"Reciprocal compensation" describes the negotiated or arbitrated cost

138. *Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355 (1986).

139. *AT&T Corp.*, 525 U.S. 366.

140. Telecommunications Act of 1996 § 252, 47 U.S.C. § 252(a)(1) (Supp. IV 1998).

141. *Id.* § 252(a)(2).

142. *Id.* § 252(b).

143. *Id.* § 252(e)(1).

144. In February 1997, the United States Telephone Association placed full-page advertisements in national newspapers and magazines boasting that incumbents and new competitors had negotiated 680 interconnection agreements. *See, e.g.*, United States Tel. Ass'n (advertisement), *THE NEW REPUBLIC*, Mar. 3, 1997, at 8.

of transporting local traffic from one network to another. In the first round of interconnection agreements, the transport and termination fees ranged from three-tenths to one cent per minute. Beginning in mid-1997, several ILECs began to question some of the traffic flowing to the CLECs. Much of this early traffic from incumbents to new rival companies was bound to ISPs. The entrepreneurial CLECs were admittedly clever and fast. They had aggressively recruited ISPs as clients for their new networks.¹⁴⁵ Before competition emerged in most cities, a typical ISP would contract with the incumbent for sufficient lines for unlimited incoming calls, and the ISP would pay a monthly fee for these services. After the first round of interconnection agreements were in place, the CLECs began offering business lines to the ISPs at no charge, because they discovered that each ISP-bound call (initiated by a consumer on the ILEC network, passed to the CLEC, and transported to the ISP) would generate termination fees from the ILEC. Sometimes CLECs would bid against each other to obtain ISPs as their clients.

A typical voice call using a wireline telephone in 1996 averaged less than five minutes. In that year, a typical dial-up call that accessed the Internet via an ISP lasted eighteen minutes.¹⁴⁶ The CLECs collected termination fees from the incumbents on a *per-minute basis*, simply for transporting these calls from the incumbents' switches to the ISPs. In extreme cases, CLECs collected more revenue from termination fees from the ILECs than the consumers paid the ILECs for their monthly telephone services.¹⁴⁷ Although this was not arbitrage¹⁴⁸ or a scam,¹⁴⁹ it was,

145. One carrier's Web page invited parties to offer "free internet access while getting paid for it." Letter from B. Jeannie Fry, Director of Fed. Regulatory Affairs, SBC Comms., Inc. at Tab 5, *cited in Declaratory Ruling*, *supra* note 1, at 3704 n.78.

146. Declan McCullagh, *Telco Terrorism*, WIRED, June 1997, at 53, 54; *see also* AMIR ATAI & JAMES GORDON, IMPACTS OF INTERNET TRAFFIC ON LEC NETWORKS AND SWITCHING SYSTEMS, at 3, White Paper (Telcordia Technologies: Red Bank, N.J., June 1996), *available at* <http://www.itesf.com/resources/whitepapers/impact.pdf> (last visited Jan. 23, 2001) ("Internet calls have a mean holding time of the order of 20 minutes.").

147. Many users log on to the Internet for extended periods each day. If the ILEC pays one cent per minute to the CLEC for transporting these calls to the ISP, an hour a day online totals \$18.00 in compensation for a thirty-day month. The average urban household expenditure for basic local telephone services in 1999 was \$13.75. TRENDS, *supra* note 19, tbl. 14.1.

148. "[T]he often simultaneous purchase and sale of the same or equivalent security (as in different markets) in order to profit from price discrepancies." WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 99 (1987).

149. "[A] fraudulent or deceptive act or operation." *Id.* at 1047. Less clear is a related development: "[A] number of ISP's have been granted CLEC licenses by the FCC, making a reciprocal compensation windfall that much easier. ILEC's complain this is a 'scam.'" *FCC Decision Could Open Internet to Fed'l Regs*, *supra* note 10. "The North Carolina Commission recently put an end to a 'sham CLEC' operation that underscores the profitable

nevertheless, perverse.¹⁵⁰ Current policy discourages CLECs from seeking residential customers, preventing competition in local telephony. If a residential customer and an ISP receive services from the same provider, then ILECs pay no reciprocal compensation. CLECs have a strong economic incentive to avoid serving residential customers; doing so would jeopardize the reciprocal compensation for these Internet calls.

Some ILECs protested, especially those serving urban populations with heavy concentrations of Internet users. ILECs had negotiated interconnection agreements in good faith, assuming traffic between the two networks would be predominantly voice calls,¹⁵¹ averaging five or six minutes each. They had not expected that they would be transporting so many calls through the CLECs into cyberspace, with each call averaging three times longer than the normal voice call. The rapidly growing traffic to access the Internet caused congestion in the central offices of the ILECs,¹⁵² which forced them to increase network capacity.¹⁵³

arbitrage possibilities created by ordering reciprocal compensation.” Sprint Comms. Co., L.P., Col. Pub. Utils. Comm., Decision No. C00-479, Docket No. 00B-011T, 2000 WL 689363, at *3 n.5 (May 5, 2000).

150. Perverse in three ways: First, this was a transfer of wealth from the ILECs to the CLECs without any redeeming social benefit. To wit, consumers did not get lower ISP access charges because the CLECs were receiving substantial revenues in the form of reciprocal compensation from the ILECs; second, the leading beneficiaries of this unintended act of income redistribution were concentrated in the largest urban areas with the greatest concentrations of Internet users. Hence, the ISPs did the hard work of marketing and providing their services to the public, while substantial revenue flowed to the “early bird” CLECs that enlisted the ISPs as clients so that the volume of Internet access calls would pass through their networks; and, though not readily apparent, the third perversion is more significant because it actively discourages competition in local telephony. As long as the CLEC obtains revenue from the ILEC for terminating these Internet calls, the CLEC will have no incentive to provide residential service. If a residential customer and the ISP are both customers of the same provider, then the ILEC makes no reciprocal compensation payments.

151. “These interconnection deals were clearly formed with voice traffic in mind.” *FCC Decision Could Open Internet to Fed’l Regs*, *supra* note 10.

152. See Laurent Belsie, *Internet Glut Gives Phones a Busy Signal*, THE CHRISTIAN SCIENCE MONITOR, Dec. 23, 1996, at 4.

[T]housands of people in the San Francisco Bay area weren’t able to complete an everyday task: make a phone call. The reason, Pacific Bell says, is the Internet. . . . That poses a challenge for a local phone company like Pacific Bell. It built its network to handle voice calls, which average three to four minutes. But the company has found the average Internet calls lasts [sic] 28 minutes. And with an increasing number of customers going on-line, the traffic is starting to choke the system.

Id.

153. *Id.* “The underlying problem is that today’s telephone network is engineered to carry short voice calls, not long data communications. Upgrading this network will cost billions of dollars. And neither the local telephone companies nor Internet access firms are particularly eager to foot the bill.” *Id.*

The unhappy ILECs maintained that ISP-bound traffic was not subject to terminating compensation because the calls were not local—they did not terminate at the ISP. Indeed, because the calls accessed the Internet at the ISP, they became interstate communications. For example, in July 1997, Ameritech “determined that calls to ISP numbers are access traffic, not local exchange traffic, and refused to pay reciprocal compensation on the calls.”¹⁵⁴ Ameritech put these disputed funds in escrow accounts until the matter was resolved. Naturally, the CLECs argued that Ameritech had violated their agreements: “The CLECs with complaints against Ameritech in the Great Lake states say nothing in their interconnection contracts or Ameritech tariffs that draw a distinction between local calls to ISP numbers and local calls to other business numbers.”¹⁵⁵ The CLECs asked the state commissions to require the ILECs to resume paying reciprocal compensation and to pay back compensation owed to them.

Thus, beginning in 1997, the state commissions faced this judgment call: Were calls to ISPs local or were they interstate? At the annual meeting that year of the National Association of Regulatory Utility Commissioners (“NARUC”), “the states asserted they have jurisdiction over reciprocal compensation on ISP calls because such calls are local in nature.”¹⁵⁶ Indeed, by February 1999, “[t]wenty-nine states [had] ruled that dial-up calls to ISPs are local and, therefore, are subject to reciprocal compensation provisions in local network interconnection agreements.”¹⁵⁷

Several press accounts of this dispute portray the ILECs as greedy, inept, stupid, or worse. Here is the conventional story line: First, ILECs fought hard for transport and termination fees that were too high (above cost). Second, they lost the ISP business to their new competitors. Third, the ILECs were forced to run to the regulators for relief from rules they themselves helped to make. Some journalists concluded, therefore, the incumbents were “hoist on their own petard,” and deserved no sympathy for their plight. The wounds were self-inflicted.¹⁵⁸ This narrative made

154. *Eight More States Address Reciprocal Compensation On ISP Local Calls*, STATE TELEPHONE REGULATION REPORT, Nov. 27, 1997, at 2 [hereinafter *Eight More States Address Reciprocal Compensation*].

155. *Id.*

156. *Id.* at 3.

157. Herb Kirchhoff, *FCC Order on ISP Calls Puts Reciprocal Compensation Issue Back in States' Hands*, STATE & LOCAL COMMS. REP., Mar. 5, 1999, at 1.

158. *Eight More States Address Reciprocal Compensation*, *supra* note 154, at 3.

ALTS Vice President and General Counsel Richard Metzger said the rules that brought about the compensation imbalance on ISP traffic were largely the doing of the incumbent Bell companies. Metzger said telcos such as Bell Atlantic opposed CLECs' pleas for “bill and keep” interconnection arrangements, where each local provider keeps all the revenue on a local call rather than

good story-telling—hubris always makes great copy—but the economic issues arising from the creation of interconnection agreements in any network industry are better understood without this sophistry.

“The only way you make money on the networking business is traffic. The company that has the most traffic and the most content will attract the most subscribers,” noted C. Michael Armstrong, Chairman of AT&T.¹⁵⁹ As noted above, the 1996 Act obligates ILECs to provide network elements and interconnection agreements to their competitors, but they are not required to subsidize the competitors.¹⁶⁰ Regulators often endorse this “bill-and-keep” method for interconnection pricing. Under this alternative to mutual compensation based on traffic volume, each network bills and then keeps the revenue from calls originating on its own network. The costs of transporting and terminating local traffic that originates from another network are not charged to that network, eliminating transaction costs. This method works fairly and efficiently, however, only when the traffic between two companies is roughly equivalent.¹⁶¹

compensating the terminating local carrier. He said incumbents believed they would get the lion’s share of the local business of the ISPs. Instead, a great deal of the ISP business was taken up by the CLECs. ‘As a result, the Bell companies now have to pay for terminating Internet traffic, something they didn’t expect to have to do,’ Metzger said. ‘In a world-class flip flop, Bell Atlantic complains that it will pay CLECs \$50 million to \$100 million in 1998 for termination of Internet calls. . . . Now that the Bells must pay [local competitors], they want to renege on their debts and fight the very rules they originally lobbied for.’

Id.

159. *Hearing of the Advisory Commission on Electronic Commerce* (Sept. 14, 1999) (Statement of C. Michael Armstrong), available at <http://www.ecommercecommission.org/newYork/tr0914.htm>.

160. This was the source of the controversy over the FCC’s TELRIC pricing rules for interconnection. See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 336 (1999); Gabel & Rosenbaum, *supra* note 132. But see *SIDAK & SPULBER*, *supra* note 132, at 272.

[U]nder established takings jurisprudence, a breach of the regulatory contract, including the mandatory unbundling of the utility’s infrastructure, would constitute a taking of property if not accompanied by offsetting mechanisms to recover stranded costs and to end continuing incumbent burdens. The government’s unilateral repudiation of the regulatory contract would require the payment of just compensation.

Id.

161. John Haring & Jeffrey H. Rohlf, *Telecommunications Pricing for Efficient Local Competition*, paper presented at the Telecommunications Policy Research Conference, Solomons, Md. 3 (October 1996).

[B]ill-and-keep has serious defects. It creates artificial incentives for inefficient and irreversible investments by competitive carriers. . . . [B]ill-and-keep almost guarantees the emergence of an inefficient industry structure. Bill-and-keep is likely to result in a substantial transfer of wealth from the customers and stockholders of [LECs] to the customers and stockholders of entrants. It can accurately be described as a regulatory giveaway.

The California PUC imposed bill-and-keep as an interim rule to begin on January 1, 1996.¹⁶² Two ILECs, however, quickly realized that the costs of transporting and terminating the vast number of calls originating from the new entrants' networks outweighed the costs avoided by not having to pay the transporting and termination costs of their calls flowing to smaller, rival networks. In upholding this interim rule, the PUC concluded, "Even if one assumed that 'bill-and-keep' would result in some cost to [the LECs], this cost will most likely be small."¹⁶³

State regulators remain sympathetic to bill-and-keep because it simplifies pricing, reduces transaction costs, and the FCC has adopted it as a model for interconnection pricing between the wireline and wireless providers.¹⁶⁴ It is, however, not a fair or efficient mechanism when an incumbent's network (*B*) is disproportionately larger than the new entrant's network (*A*). This is simply because (*B*) will complete far more calls from (*A*) than (*A*) will terminate from (*B*). "[I]n local telephony bill-and-keep will produce a lopsided system of implicit compensation, and hence a substantial subsidy to entrants, until the market shares of *A* and *B* become comparable."¹⁶⁵

Id.

162. SIDAK & SPULBER, *supra* note 132, at 247.

"Bill-and-keep" is a method by which each LEC and CLC terminates local traffic for all other LECs and CLCs with which it interconnects, bearing its own capital and operating costs for these functions. Under this approach, individual LECs or CLCs theoretically bear a proportional share of the overall costs associated with reciprocal traffic exchange.

Id. (quoting Competition for Local Exchange Service, 165 P.U.R.4th 127, 128 (Cal. Pub. Utils. Comm'n 1995)). The second sentence above, however, is not correct. A large network will terminate proportionately more of the traffic flowing between networks, *ceteris paribus*, than the smaller networks would terminate.

163. *Id.*

164. *Id.* (citing Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, *Notice of Proposed Rulemaking*, 11 F.C.C.R. 5020 (1996)). The rough parity of traffic volumes between these networks is the major reason that bill-and-keep is an appropriate rule in this situation.

165. *Id.* at 248.

[S]uppose that 99 percent of calls are placed to subscribers on the network of the [ILEC] *B*, and only 1 percent of calls are placed to subscribers on the network of [CLEC] *A*. All other things being equal, a subscriber on *A*'s system would therefore need to terminate calls on *B*'s network 99 percent of the time. Under bill-and-keep, *B* would bear the cost of terminating all calls on its system, including the cost of terminating 99 percent of all calls originating from *A*'s subscribers. Conversely, *A* would bear the cost of terminating the calls from *B*'s subscribers; but by assumption those calls constitute only 1 percent of the total volume of calls placed. Thus, *B* would bear the cost of terminating 99 percent of all traffic and avoid the cost of terminating only 1 percent. Conversely, *A* would avoid the cost of terminating 99 percent of the calls that originated on its

The ILECs rejected the bill-and-keep arrangement in this first round of interconnection agreements for good business reasons.¹⁶⁶ “Approximately [thirty] percent of a LEC’s revenues are generated by just 1 percent of its customers.”¹⁶⁷ As one might expect, the CLECs’ initial subscribers were predominantly businesses in urban areas.¹⁶⁸ The mathematics strongly indicate that traffic originating on the rival networks (and flowing to the incumbents) would be many times greater than the traffic originating on the incumbents’ networks (and flowing to the CLECs’ networks). Bill-and-keep works well when traffic volumes between carriers are roughly balanced.¹⁶⁹

Looking back on this first round of interconnection agreements, apparently ILECs could not predict the ensuing popularity of the Internet

network. As A’s share of the market grew, its percentage of termination costs avoided would correspondingly fall.

Id. at 247-48.

166. Jon Van, *Ruling: Internet Calls Are Local*, CHI. TRIB., July 23, 1998, at D1 (quoting Michael Jankowski, a Washington-based communications lawyer):

The irony here is that when dominant local phone companies like Ameritech negotiated these deals, they insisted on reciprocal payments. . . . [T]he incumbent carriers wanted reciprocity because they figured they would be handling 98 percent of these calls for the next decade or two and didn’t want to subsidize their competitors. They never anticipated it could come back to bite them like this, and you can’t blame them. I wouldn’t have anticipated it, either.

167. INGO VOGELSANG & BRIDGER M. MITCHELL, *TELECOMMUNICATIONS COMPETITION: THE LAST TEN MILES* 29 (1997) [citation omitted].

168. UNITED STATES GEN. ACCOUNTING OFFICE, *TELECOMMUNICATIONS: DEVELOPMENT OF COMPETITION IN LOCAL TELEPHONE MARKETS* 16 (2000). Following the lead of competitive access providers, most CLECs sought urban businesses as initial subscribers.

[T]he concentration of customers in urban areas reduces the cost of service because it shortens the average length of the telephone line that connects a customer’s premises to a telephone company’s primary facilities. . . . [B]usiness users can generate more revenue and be less costly to serve because businesses are more likely than residential customers to buy a greater volume and variety of telecommunications services. The greater profitability of serving urban business markets is also related to the prices—set by regulators—that incumbent carriers charge for telephone service.

Id. Obviously, the business tariff set higher than actual cost makes this the most inviting target for new entrants. “It is an industry rule of thumb that local exchange carriers obtain 80 percent of their total revenues from 20 percent of their customers.” WILLIAM J. BAUMOL & J. GREGORY SIDAK, *TOWARD COMPETITION IN LOCAL TELEPHONY* 11 (1994).

169. “The main argument in favor of bill-and-keep is that it can save on transaction costs for interconnection. That may be the wrong approach, however, if traffic turns out to be highly asymmetrical and substantial resource costs are incurred for handling the interconnected traffic.” VOGELSANG & MITCHELL, *supra* note 167, at 202-03. These authors also note that interconnection agreements may impose substantial costs on networks already at capacity, which suggests that costs may vary depending upon the peak-load volumes. Under those circumstances, reciprocal compensation agreements should reflect the increased network costs of adding capacity to accommodate traffic at peak-load periods.

(although, to be fair, few people could). Had they foreseen this popularity, the issue of transporting ISP-bound traffic might have been negotiated differently.¹⁷⁰ When former President Clinton took office in January 1993, only a trivial number of pages existed on the World Wide Web. In 1994, three million people had access to the Internet. By comparison, in 2000, an estimated 300 million people throughout the world had access to the Internet's one billion Web pages, with an estimated three million new pages added each day.¹⁷¹

In 1994, 24.1% of American households had computers (in contrast to 93.8% with telephones), and the U.S. Census Bureau's current population survey did not even ask about Internet use at home. In 1997, 38.6% had a home computer, 93.8% had a telephone, and 18.6% had Internet access at home. Just three years later, 51% had a home computer, 94.6% had a telephone, and 41.5% had Internet access at home.¹⁷² The more than twofold increase in households with computers in six years is significant, as is the more than twenty-three-percentage-point increase in households gaining Internet access in just three years. The accelerated rate of technological diffusion at the close of the twentieth century in America rivals its few precedents (radio in the 1920s and TV in the 1950s): from 1994 to 2000, the percentage of households with a computer more than doubled, and during the last three years, households with Internet access increased by more than one hundred percent.

Of the estimated 171 million Internet users throughout the world in 1999, more than half lived in the United States and Canada.¹⁷³ In that year, "[a]n estimated 39 percent of American adults had access to the Internet at home or at work."¹⁷⁴ Traffic on the Internet doubled every one hundred

170. A different pricing rule for ISP-bound traffic would not have affected the nature of this traffic or the jurisdictional question.

171. U.S. DEP'T OF COMMERCE, DIGITAL ECONOMY 2000 (2000) [hereinafter DIGITAL ECONOMY 2000] (preface of William M. Daley, Secretary of Commerce), available at <http://www.esa.doc.gov/de2k.htm> (last visited Jan. 27, 2001). See also *The Web: Growing by 2 Million Pages a Day*, THE INDUSTRY STANDARD, March 6, 2000, at 174 [hereinafter *The Web: Growing by 2 Million Pages a Day*].

172. TRENDS, *supra* note 19, chart 17.1 (citing data from the National Telecommunications and Information Administration ("NTIA") and U.S. Census Bureau, Current Population Surveys).

173. NUA Internet Surveys, in DIGITAL ECONOMY 2000, *supra* note 171, at 7. Note this source estimates that 136.9 million people in Canada and the United States had access to the Internet in March 2000.

174. THOMAS W. BONNETT, COMPETING IN THE NEW ECONOMY: GOVERNANCE STRATEGIES FOR THE DIGITAL AGE 52 (2000), available at <http://www.xlibris.com/CompetingintheNewEconomy.html> (last visited Jan. 23, 2001) [hereinafter COMPETING IN THE NEW ECONOMY].

days during 1995-96, and has doubled each year since then.¹⁷⁵ As of May 2000, "4.5 percent of the more than 50 million total ISP customers in the U.S. [] have cable or [digital subscriber line ("DSL")] connections," which leaves more than 95% using dial-up services through the local telephone exchanges.¹⁷⁶

With the explosive popularity of the Internet, hundreds of millions of dollars of disputed revenues for reciprocal compensation in well-kept escrow accounts, rulings by more than half of the state commissions that ISP-bound traffic was local by jurisdiction, and appeals pending in numerous courts, the FCC issued a *Declaratory Ruling* on this matter on February 25, 1999.¹⁷⁷ The ruling concluded "that ISP-bound traffic is jurisdictionally mixed and appears to be largely interstate. . . . In the absence, to date, of a federal rule regarding the appropriate inter-carrier compensation for this traffic, we therefore conclude that parties should be bound by their existing interconnection agreements, as interpreted by state commissions."¹⁷⁸

The 1996 Act grants the FCC jurisdiction over "all interstate and foreign communication by wire."¹⁷⁹ Traffic is interstate "when the communication or transmission originates in any state, territory, possession of the United States, or the District of Columbia and terminates in another state, territory, possession, or the District of Columbia."¹⁸⁰ The 1996 Act defines telecommunications as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."¹⁸¹ ISP-bound traffic is interstate because "communications should be analyzed on an end-to-end basis,"¹⁸² and "a substantial portion of Internet traffic involves accessing interstate or foreign websites."¹⁸³

175. ANDREW ODLYZKO, AT&T LABS-RESEARCH, INTERNET GROWTH: MYTH AND REALITY, USE AND ABUSE 2 (2000), available at <http://www.research.att.com/~amo/doc/internet.growth.myth.pdf> (last visited Jan. 30, 2001).

176. *The Web: Growing by 2 Million Pages a Day*, *supra* note 171, at 194.

177. *Declaratory Ruling*, *supra* note 1, para. 18.

178. *Id.* para. 1.

179. *Id.* para. 18; see 47 U.S.C. § 152(a) (Supp. IV 1998).

180. *Declaratory Ruling*, *supra* note 1, para. 18; see Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 F.C.C.R. 11,501, para. 112, 11 Comm. Reg. (P & F) 1312 (1998).

181. 47 U.S.C. § 153(43).

182. *Declaratory Ruling*, *supra* note 1, para. 15; "[B]oth court and Commission decisions have considered the end-to-end nature of the communications more significant than the facilities used to complete such communications." *Teleconnect Co. v. Bell Tel. Co. of Pa.*, *Memorandum Opinion and Order*, 10 F.C.C.R. 1626, para. 12 (1995), *aff'd sub nom.* *Southwestern Bell Tel. Co. v. FCC*, 116 F.3d 593 (D.C. Cir. 1997).

183. *Declaratory Ruling*, *supra* note 1, para. 18.

The FCC ruling rejected the various semantic arguments made by the CLECs that really two calls were being made—the first one locally to the ISP, which was terminated, and the second one into cyberspace via the Internet, which is not truly telecommunications. The services provided by ISPs are included in “enhanced services,” which are provided “over common carrier transmission facilities used in interstate communications.”¹⁸⁴ Internet access falls within the family of “information services,” defined by the 1996 Act as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information *via telecommunications*.”¹⁸⁵ Hence, these calls do not terminate at the ISP; they are not exclusively local calls subject to reciprocal compensation.¹⁸⁶

Curiously, however, this *Declaratory Ruling* did not cite as precedent the tariffing requirement for incumbent telephone companies offering DSL services, which the FCC established in 1998.¹⁸⁷ According to an FCC White Paper, “DSL is a high speed telecommunications service that offers consumers the ability to access data services at speeds of up to 50 times the traditional 56 kbps dial-up modem. The Commission concluded that DSL services were properly classified as interstate telecommunications services and should be tariffed at the federal level.”¹⁸⁸ Obviously, a call to cyberspace, either through a DSL connection or via an ISP, constitutes an interstate call under the FCC’s jurisdiction.

Having established its authority to rule on this matter, the FCC concluded that the “parties should be bound by their existing interconnection agreements, as interpreted by state commissions.”¹⁸⁹ This pushed the dispute, in the interim, back to the state commissions, although the FCC issued a *Notice of Proposed Rulemaking* on the matter.¹⁹⁰ The *Notice of Proposed Rulemaking* reflected the former Chairman’s conciliatory approach of trying to work with the state commissions instead of battling them over jurisdiction, as previous Chairmen did.¹⁹¹ It may have

184. *Id.* para. 13 (quoting 47 C.F.R. § 64.702(a) (1999)).

185. *Id.* para. 13 (quoting 47 U.S.C. § 153(20)).

186. *Id.* paras. 14-15.

187. GTE Tel. Operating Cos., *Memorandum Opinion and Order*, 13 F.C.C.R. 22,466, 14 Comm. Reg. (P & F) 279 (1998).

188. OXMAN, *supra* note 65, at 19.

189. *Declaratory Ruling*, *supra* note 1, para. 18.

190. OXMAN, *supra* note 65, at 19.

191. The Nat’l Ass’n of Regulatory Util. Comm’rs, *Resolution Regarding the “Magna Carta” for State, U.S. Territories, and Federal Regulators*, available at <http://www.naruc.org/Resolutions/rescont.htm> (last visited Jan. 27, 2001). Former Chairman William Kennard first proposed this Magna Carta between the FCC and NARUC. See Rowe, *supra* note 77, at 891.

also reflected the FCC's respect for the substantial work done by the state commissions in negotiating and arbitrating this first round of interconnection agreements. These interpretations notwithstanding, this anomalous approach stands out in the contentious history of dual regulation of telecommunications in this country.¹⁹² It did not deter the disputing parties from seeking relief from the *Declaratory Ruling* in court.¹⁹³

Following the *Declaratory Ruling*, industry analysts lowered their

192. The D.C. Circuit also raised an eyebrow at this approach:

Having thus taken the calls to ISPs out of § 251(b)(5)'s provision for "reciprocal compensation" (as it interpreted it), the Commission could nonetheless itself have set rates for such calls, but it elected not to. In a Notice of Proposed Rulemaking, [] the Commission tentatively concluded that "a negotiation process, driven by market forces, is more likely to lead to efficient outcomes than are rates set by regulation," [] but for the nonce it left open the matter of implementing a system of federal controls. It observed that in the meantime parties may voluntarily include reciprocal compensation provisions in their interconnection agreements, and that state commissions, which have authority to arbitrate disputes over such agreements, can construe the agreements as requiring such compensation; indeed, even when the agreements of interconnecting LECs include no linguistic hook for such a requirement, the commissions can find that reciprocal compensation is appropriate.

Bell Atl. Tel. Co. v. FCC, 206 F.3d 1, 2-3 (D.C. Cir. 2000) (citations omitted). Others might note the inconsistency of the FCC's staunch opposition to the efforts by the International Telecommunication Union ("ITU") to regulate the manner and rates at which Internet traffic is exchanged, and its decision to let the fifty-one state PUCs resolve this dispute. See *Abelson Lays Out U.S. Opposition to ITU Study Group Plan*, COMM. DAILY, Apr. 27, 2000, at 2.

193. *Bell Atl. Tel. Co.*, 206 F.3d at 3.

This outcome left at least two unhappy groups. One, led by Bell Atlantic, consists of incumbent LECs (the "incumbents"). Quite content with the Commission's finding of § 251(b)(5)'s inapplicability, the incumbents objected to its conclusion that in the absence of federal regulation state commissions have the authority to impose reciprocal compensation. Although the Commission's new rulemaking on the subject may eventuate in a rule that preempts the states' authority, the incumbents object to being left at the mercy of state commissions until that (hypothetical) time, arguing that the commissions have mandated exorbitant compensation. In particular, the incumbents, who are paid a flat monthly fee, have generally been forced to provide compensation for internet calls on a per-minute basis. Given the average length of such calls the cost can be substantial, and since ISPs do not make outgoing calls, this compensation is hardly "reciprocal."

Another group, led by MCI WorldCom, consists of firms that are seeking to compete with the incumbent LECs and which provide local exchange telecommunications services to ISPs (the "competitors"). These firms, which stand to receive reciprocal compensation on ISP-bound calls, petitioned for review with the complaint that the Commission erred in finding that the calls weren't covered by § 251(b)(5).

Id.

revenue projections for many of the CLECs,¹⁹⁴ and many state commissions began to re-evaluate the issue. One state, Massachusetts, ruled that ISP-bound traffic was interstate by jurisdiction and ordered a rate adjustment for such disputed reciprocal compensation claims.¹⁹⁵ Subsequent interconnection agreements tended to include much lower per-minute charges for transport and termination fees.¹⁹⁶ Furthermore, a growing number of state commissions—including Texas, California, and Ohio—commenced general hearings on the issue.

On March 24, 2000, the D.C. Circuit vacated the FCC's *Declaratory Ruling* and remanded the case.¹⁹⁷ The court concluded:

Because the Commission has not provided a satisfactory explanation why LECs that terminate calls to ISPs are not properly seen as “terminat[ing] . . . local telecommunications traffic,” and why such traffic is “exchange access” rather than “telephone exchange service,” we vacate the ruling and remand the case to the Commission. . . . [I]n the interim our vacatur of the Commission's ruling leaves the incumbents free to seek relief from state-authorized compensation that they believe to be wrongfully imposed.¹⁹⁸

194. “According to Focal's 10-Q report filed with the Securities and Exchange Commission, reciprocal compensation payments represented 71% of the company's revenues for the most recent quarter.” Fed. Filings Bus. News, *Bell Atlantic to Cut Reciprocal Compensation Rates in NY*, Dow Jones & Co., Inc. (Aug. 20, 1999), available at <http://nrstg2s.djnr.com>.

195. Bruce Mohl, *Lawmakers Want to Reverse Net Access Ruling*, BOSTON GLOBE, Sept. 29, 1999, at C4.

In a 3-2 vote in May, the [Department of Telecommunications and Energy] reversed an earlier decision and held that Bell Atlantic was not required to pay millions of dollars in fees to competitors for completing Internet-bound calls made by Bell Atlantic customers. . . . Bell Atlantic says the decision will save it about \$150 million a year, and used part of the savings to finance \$38 million in rebates and rate reductions this summer.

Id.

196. Dow Jones News Service, *Bell Atlantic, PaeTec Comm. Reach Internet Agreement*, Dow Jones & Co., Inc. (Nov. 1, 1999), available at <http://nrstg2s.djnr.com>.

Bell Atlantic Corp. (BEL) and Paetec Communications Inc. signed a three-year Internet agreement to set up intercarrier compensation rates for local and Internet traffic in 10 eastern states and Washington D.C. . . . The agreements, retroactive to February 1999, reduced the rates one company pays the other to three-tenths of a cent per calling minute in fiscal [year] 1999 and to just above one-tenth of a cent after 2000. The rates previously ran as high as eight-tenths of a cent per calling minute, Bell said.

Id.

197. *Bell Atl. Tel. Co.*, 206 F.3d 1.

198. *Id.* at 9.

The CLECs interpreted the remand as a victory, while the head of the FCC's Common Carrier Bureau said the court "merely asked for a clearer justification of its FCC's ruling."¹⁹⁹ On June 23, 2000, the FCC sought public comments on issues relating to the remand of the FCC's reciprocal compensation ruling.²⁰⁰

Additionally, the D.C. Circuit sharply noted the contradiction between the protective armor the FCC gives to enhanced service providers ("ESPs") and the justification for ruling that ISP-bound traffic is interstate by jurisdiction.²⁰¹ ESPs link customers and computers via the telephone network; they have been exempt from paying access fees to the LECs since 1983.²⁰² In defense of the ESP link exemption, the FCC continued to maintain a distinction that lost its edge: Telecommunications services are regulated common carrier services, while information services are not. Hence, inter-exchange carriers ("IXCs") must pay access fees to LECs to complete long-distance calls and provide universal service support, while the ESPs are exempt from paying access fees and do not have to contribute to the universal service funds.²⁰³

This policy distinction cannot be sustained.²⁰⁴ ESPs rely on the PSTN in exactly the same way as do the long-distance carriers. Both should pay access fees based on the cost to support the PSTN. Both impose capacity

199. Kathy Chen, *Court Orders FCC to Reconsider Ruling That Internet Calls Are Long Distance*, WALL ST. J., Mar. 27, 2000, at B8.

200. Comment Sought on Remand of the Commission's Reciprocal Compensation Declaratory Ruling by the U.S. Court of Appeals for the D.C. Circuit, *Public Notice*, 15 F.C.C.R. 11,311 (2000).

201. "This classification of ESPs is something of an embarrassment to the Commission's present ruling." *Bell Atl. Tel. Co.*, 206 F.3d at 8.

202. Neil Munro, *Cautious Course on Internet Taxes*, 21 NAT'L J. 1620, 1621 (2000).

The biggest advantage for Internet firms came in 1983, when the Federal Communications Commission voted to exempt digital transmissions from telephone regulations that require telecommunications companies to pay access charges whenever they link to the local phone companies' lines. The regulatory break lets Internet users visit Web sites around the world at low cost. Its annual value is roughly \$7 billion.

Id.

203. Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, 13 F.C.C.R. 11,501, 11 Comm. Reg. (P & F) 1312 (1998).

204. POLICIES ON PRICING AND UNIVERSAL SERVICE, *supra* note 16.

PSN traffic and advanced telecommunications infrastructure are evolving symbiotically. In recognition of this, costs imposed on the PSN by those accessing the Internet should be equitably shared among the originators, conveyors and recipients of these communications in a manner that promotes competitive markets, technological innovation, network reliability, service quality, infrastructure investment, and universal service.

Id. at 38.

requirements on the PSTN, so the access fees should be traffic-sensitive. Consequently, both should directly contribute to the Universal Service Fund (“USF”). The rationale that ESPs provide information services, not telecommunications services, was an intellectual defense against making direct contributions in the 1980s.²⁰⁵ Such contributions could have been defended prior to the 1996 Act, because most of the firms forming the PSTN were protected from competition and guaranteed a reasonable rate of return on their investments. Because the 1996 Act imposed competition in the local exchange market, regulators may not impose burdens on the incumbents without providing appropriate compensation.²⁰⁶ The ESP exemption places an unreasonable burden on the PSTN, a burden that should be shared equally among all those who use this network.²⁰⁷ The

205. The weakest argument used to defend this ESP exemption from access fees came from the former Chairman of the FCC. “While Mr. Hundt acknowledged that Internet providers were getting low-cost access to the phone network, he preferred not to call it a free lunch. ‘The rate payers paid for this network,’ he said, ‘My argument is that it’s been a nice lunch for the entire country.’” Mark Landler, *The Bells Want F.C.C. to Make Providers Share Internet Costs*, N.Y. TIMES, Nov. 25, 1996, at D10. The second weakest argument appeared in the FCC’s *Access Charge Reform Order*: “[G]iven the evolution in ISP technologies and markets since we first established access charges in the early 1980s, it is not clear that ISPs use the public switched network in a manner analogous to IXCs.” 12 F.C.C.R. 15,982, para. 345, 7 Comm. Reg. (P & F) 1209 (1997). The third weakest argument for maintaining the ESP exemption was that its purpose was to “preserve the vibrant and competitive free market that presently exists for the Internet and interactive computer services.” *Id.* para. 344 (quoting 47 U.S.C. § 230(b)(2) (Supp. IV 1998)). One rationale for this artificial distinction between information services and telecommunications, which is no longer valid, rests upon the concept of network effects. “Positive network externalities arise when a good is more valuable to a user the more users adopt the same good or compatible ones.” JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* 405 (1988). Curiously, this is also the public-benefit argument for universal service programs and the underlying rationale for maintaining the quality and integrity of the PSTN. With more than forty percent of American adults having access to the Internet at home, there is little justification for subsidizing data transmission at the expense of the PSTN, because both provide valuable social benefits from network effects. See TRENDS, *supra* note 19, at chart 17.1.

206. BARBARA A. CHERRY & STEVEN S. WILDMAN, *Unilateral and Bilateral Rules: A Framework for Increasing Competition While Meeting Universal Service Goals in Telecommunications*, in MAKING UNIVERSAL SERVICE POLICY: ENHANCING THE PROCESS THROUGH MULTIDISCIPLINARY EVALUATION 56 (Barbara A. Cherry et al. eds., 1999).

[E]xisting unilateral rules are fundamentally incompatible with a competitive telecommunications industry because: (a) they are applied differently to different firms; (b) firms have differential abilities and incentives to evade the rules due to difficulties in monitoring compliance; and/or (c) the investments required to satisfy the rules are sufficiently at risk to expropriation to preclude voluntary provision of service at desired levels of quality, continuity, and price.

Id.

207. US WEST, Inc., *Petition of US WEST Inc. for Expedited Declaratory Ruling Affirming Carrier’s Carrier Charges on IP Telephony* (filed Apr. 5, 1999).

PSTN must not be forced to subsidize the data transmission technologies that threaten to supplant the network.²⁰⁸ Achieving regulatory parity by treating all users of the PSTN equally is the most important policy step that the FCC could take to guide telecommunications toward an equitable competition regime.²⁰⁹

V. THE NATURE OF AN INTERNET CALL

State commissions have full agendas, and consequently, some have resisted pleas from the disputing parties to schedule full hearings to determine the nature of an Internet call. Having established such a fine record in negotiating and arbitrating the first round of interconnection agreements, the state commissions should initiate general hearings to resolve this dispute. According to the FCC's *Local Competition Order*, the state commissions' authority over interconnection agreements pursuant to section 252 of the 1996 Act "extends to both interstate and intrastate matters."²¹⁰ As the FCC's *Declaratory Ruling* notes, "[T]he mere fact that ISP-bound traffic is largely interstate does not necessarily remove it from the section 251/252 negotiation and arbitration process."²¹¹

Following this logic, the Colorado Public Utilities Commission ("CPUC") ruled on May 3, 2000, that ISP-bound traffic is not subject to reciprocal compensation because "such calls are primarily interstate in

208. Most regulators and industry leaders are acutely sensitive to the ideal of regulatory parity, despite the inability of regulatory agencies to achieve it. Other regulators might identify with Steven Wright, a comedian who says, "I feel like I'm diagonally parked in a parallel universe." E-mail correspondence to Author, *Basic Truths from Comedian Steven Wright*, Apr. 18, 1998. The FCC's *Universal Service Order* included this reference to aspirations of neutrality among technologies: "COMPETITIVE NEUTRALITY—Universal service support mechanisms and rules should be competitively neutral. In this context, competitive neutrality means that universal service support mechanisms and rules neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another." Fed.-State Joint Bd. on Universal Serv., *Report and Order*, 12 F.C.C.R. 8776, para. 47, 7 Comm. Reg. (P & F) 109 (1997).

209. In responding to an FCC proposal that would impose access fees on Internet providers that carried VoIP, Eli Noam noted:

"You want neutrality," . . . "You don't want anyone getting a competitive advantage or disadvantage based on the regulatory treatment of the technology they are employing.

"The Internet industry would shrink in horror from the idea of industrial policy. But that is exactly what they are advocating. They say they are young, they are new, so treat us preferentially."

Seth Schiesel, *F.C.C. Urges Policy Change in Cyberspace: Internet Phone Service Would Be Fee-Based*, N.Y. TIMES, Apr. 11, 1998, at D4.

210. Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, *First Report and Order*, 11 F.C.C.R. 15,499, para. 84, 4 Comm. Reg. (P & F) 1 (1996).

211. *Declaratory Ruling*, *supra* note 1, para. 25.

nature.”²¹² In addressing a full range of issues, the CPUC’s ruling merits careful review:

While ISP calls appear to be interstate in nature, our conclusion is not necessarily based upon that [determination.] Even if this traffic were considered to be local in nature, the Commission still would not embrace reciprocal compensation with a positive rate. Such a scheme would, in our view, bestow upon Sprint an unwarranted property right, the exercise of which would result in decidedly one-sided compensation. In addition, we find that reciprocal compensation would introduce a series of unwanted distortions into the market. These include: (1) cross-subsidization of CLECs, ISPs, and Internet users by the ILEC’s customers who do not use the Internet; (2) excessive use of the Internet; (3) excessive entry into the market by CLECs specializing in ISP traffic mainly for the purpose of receiving compensation from the ILECs; and (4) disincentives for CLECs to offer either residential service or advanced services themselves. In short, we agree with U S WEST that reciprocal compensation for ISP traffic would not improve overall social welfare; it would simply promote the welfare of some at the expense of others.²¹³

Three simple facts should form the basis for resolving this dispute at the state level. First, “[t]hese interconnection deals were clearly formed with voice traffic in mind.”²¹⁴ Second, the underlying cause of this dispute is that the Internet gained popularity far more rapidly than any reasonable person could have foreseen. Third, the CLECs did not contribute to social welfare by enticing ISPs to become their customers, and no data exists that show that the ISP-users’ monthly charges for Internet access were lower as a result of these windfall revenues flowing from the ILECs to the CLECs. Monthly fees for Internet access charged by most ISPs did not increase in Massachusetts or Colorado after state commission rulings that Internet calls were interstate and not subject to reciprocal compensation. In short, the flow of revenues from ILECs to CLECs, when ISP calls are subject to reciprocal compensation for termination, constitutes a transfer of wealth

212. Sprint Comms. Co., L.P., Col. Pub. Utils. Comm., Decision No. C00-479, Docket No. 00B-011T, 2000 WL 689363, at *2 (May 5, 2000).

Given that most Internet calls end at locations out of state, it appears that such calls are primarily interstate in nature. We view the originator of the Internet-bound call as acting primarily as a customer of the ISP, not as a customer of U S WEST. Both U S WEST and Sprint are providing access-like functions to transmit the call to the Internet, similar to what their role would be in providing access to an IXC to transmit an interstate call. Furthermore, the remote hubs to which Internet-bound traffic is directed are often outside the state in which the call originated. Beyond that, the ultimate destination of these calls is some web site, which is generally in another state or even another country.

Id.

213. *Id.* (citation omitted).

214. *FCC Decision Could Open Internet to Fed’l Regs*, *supra* note 10.

from the ILECs to the new competitors who enjoy a windfall.

None of the above arguments proved conclusive in the Texas Public Utility Commission ("TPUC") ruling on reciprocal compensation issued July 14, 2000.²¹⁵ TPUC's arbitration award established permanent rates for intercarrier compensation relating to the transport and termination of local traffic between Southwestern Bell Telephone Company ("SWBT") and certain CLECs. According to SWBT's testimony, "average hold times are approximately three minutes for voice calls as compared to 29 minutes for Internet calls."²¹⁶ SWBT also alleged that ninety-two percent of the traffic flowing to the CLECs went to ISPs.²¹⁷ Consequently, SWBT argued that ISP-bound traffic, using end-to-end analysis, was interstate jurisdictionally, and, therefore, should not be subject to any reciprocal compensation requirement because it is not local traffic. TPUC's ruling rejected SWBT's argument, reaffirming its earlier decision that ISP-bound traffic was local. TPUC adopted a bifurcated rate structure, accepting the contention that the calls passed to the CLECs, on a per-minute basis, should receive less compensation for termination than for setup.²¹⁸

In reaching this conclusion, the Commission first examined the nature of an ISP-bound call. It found that a call over the Internet consists of two components: (1) the information service component, which is the content of the call, and (2) the telecommunications service component, which is the carrier-to-carrier and carrier-to-end-user transmission of the call. With respect to the latter, the Commission concluded that when a person calls an ISP within a local calling area, the traffic carried on the call's transmission path is local in nature, with the telecommunications service component of the call terminating at the ISP.²¹⁹

TPUC accurately interpreted the Commission's meaning a decade ago, before e-mail and the Web became killer applications of this digital revolution. In the early 1990s, a handful of ISPs offered online services that relied exclusively upon their proprietary information systems. It quickly became apparent that e-mail was the most popular service provided by the new ISPs. The instant popularity of e-mail demonstrates the powerful effect of network externalities—as more people joined these networks, all users

215. Reciprocal Compensation, No. 21,982, 2000 Tex. PUC LEXIS 95 (Tex. Pub. Util. Comm'n July 14, 2000).

216. *Id.* at *67.

217. *Id.* at *37.

218. *Id.* at *76. "[T]he two-part end-office rate, consisting of (1) a per call charge for the compensation of setup costs (\$0.0010887 per call) and (2) a per minute charge (\$0.0010423 per minute) for the compensation of volume-sensitive costs, shall be applied to all local traffic, including ISP-bound traffic." *Id.*

219. *Id.* at *12-13.

received more value from being linked to them.²²⁰ The majority of people use the Internet to send and receive e-mail.²²¹ This medium has become so popular that the daily volume of e-mail now dwarfs the volume of first-class mail delivered each day by the United States Postal Service.²²²

The most successful of the ISP pioneers, America Online (“AOL”), grew rapidly because it valued and cultivated these communication functions. AOL promoted “chat rooms,” where users could engage others who shared common interests. AOL was

the first company to heavily market its chat groups, the only one to allow private rooms, and the first company to have unregulated message boards. . . . AOL also heavily promoted its policy of allowing accounts with multiple screen names—helping families, but also allowing users to instantly switch to code names like “hotlegs49” for trolling the chat groups anonymously.²²³

Its most popular service today is called Instant Messaging, which allows users to communicate in real time with one or more other users.²²⁴ Hiding behind the euphemism of information services should not obscure this simple fact: Internet users are using this new medium to communicate with each other in real time.²²⁵ Indeed, Net2Phone agreed with AOL and

220. TIROLE, *supra* note 205, at 405. “Positive network externalities arise when a good is more valuable to a user the more users adopt the same good or compatible ones.” *Id.*

221. See OWEN, *supra* note 62, at 9.

About 40 percent of United States homes are equipped with personal computers, a number that appears to have stopped increasing rapidly. Average hours of weekly Internet use among those who are connected, business and residential, has increased from about three to about seven over the period 1995-1997. The number of e-mail users and the volume of e-mail per user have increased rapidly and are expected to skyrocket in the coming decade. E-mail undoubtedly is the most popular use of the Internet, and for many it is their only use of the Internet. . . . [V]iewers can tailor their leisure consumption of information and entertainment and advertisers can target their audiences with the same precision as print media. The Internet user can choose among literally millions of sources of information and amusement on the World Wide Web.

Id.

222. E.g., BRILL’S CONTENT, Ticker, April 1999, at 128. The average number of e-mail messages sent daily in the United States in 1998 was 2.1 billion; the number of pieces of mail handled daily by the U.S. Postal Service, as of May 1998, was 630 million.

223. Nicholas Thompson, *Sex in the Digital City*, THE WASH. MONTHLY, July/Aug. 2000, at 31.

224. See Julia Angwin, *AOL Makes Instant-Messaging Proposal*, WALL ST. J., June 16, 2000, at A3. “Instant Messenger is by far America Online’s most popular product, with 90 million registered users and 651 million instant messages traded each day. Instant messages are different from e-mail because there is virtually no time lag between when one is sent and when it is received, allowing for fast-paced chat sessions.” *Id.*

225. Speech recognition software has become rather sophisticated. If two or more parties use this software and link via Instant Messaging, then voice in real time replaces typing on keyboards as the means of communicating online. See Michael Dertouzos, *Internationalize*

Microsoft to provide free long-distance phone calls over the Web to the instant-messaging users on their systems.²²⁶

The Internet was used prior to 1990 primarily as a research tool; it has since become the most rapidly diffuse medium of communication in the history of civilization.²²⁷ The protocol for the World Wide Web was developed in 1989; the Mosaic browser followed in 1993; and Netscape's Navigator browser, which was given away free to consumers, arrived in 1994.²²⁸ Internet users today can access approximately one billion Web pages throughout the world that provide information on virtually any topic.²²⁹ They can conduct personal transactions, such as buying airline tickets, bidding for specialized items in online auctions, ordering new cars, finding real estate, making vacation plans, ordering dinner, arranging entertainment plans, buying and selling securities, or obtaining documents and files for research purposes.²³⁰ Most Web pages are not local.²³¹ These

the Internet!, TECH. REV., July/Aug. 2000, at 24.

226. Rebecca Buckman, *Microsoft Signs Net2Phone Pact For Free Calls*, WALL ST. J., July 20, 2000, at B14.

The new calling feature will be integrated into the newest version of Microsoft's MSN Messenger service, which launches today. The service, like larger instant-messaging services run by AOL, allows people to set up "buddy lists" of online friends and chat with them onscreen in real time.

The new offering means that "18 million people can log on tomorrow morning and get free long distance," Sarah Lefko, a Microsoft product manager, said in an interview.

Id.

227. See U.S. DEP'T OF COMMERCE, THE EMERGING DIGITAL ECONOMY 4 (1998), available at <http://www.ecommerce.gov/emerging.htm> (last visited Jan. 27, 2001).

The Internet's pace of adoption eclipses all other technologies that preceded it. Radio was in existence 38 years before 50 million people turned in. TV took 13 years to reach that benchmark. Sixteen years after the first PC kit came out, 50 million people were using one. Once it was opened to the general public, the Internet crossed that line in four years.

Id.

228. COMPETING IN THE NEW ECONOMY, *supra* note 174.

229. DIGITAL ECONOMY 2000, *supra* note 171, (preface of William M. Daley, Secretary of Commerce). "Three hundred million people now use the Internet, compared to three million in 1994. They can access more than one billion web pages, with an estimated three million new pages added every day." *Id.*

230. See Thomas W. Bonnett, *Taxing (and Not Taxing) Electronic Commerce*, 17 ST. TAX NOTES, 1191, 1193 (1999).

231. Aharon Kellerman, *Where Does it Happen? The Location of the Production and Consumption of Web Information*, 7 J. OF URB. TECH. 45.

It was observed in June 1997 that 40 of the most accessed 100 Web sites were located in California, a finding which fits the geographical pattern of Internet production. . . . In July 1999, the Web contained about 800 million pages, less than one-half of which were accessible through major search engines. . . . [I]n August 1999 the total number of unique visitors reached 63.1 million, an

Web-based activities require communication and information exchange.

Based on the scope of these online activities, the FCC's ruling could have expanded its justification that calls made by consumers to access the Internet constitute communications, and, as such, qualify for interstate jurisdiction. People use the Internet to obtain information (download music, data files, software applications, etc.), to provide information, to complete a broad range of economic transactions, and to interact in real time with others. When an individual communicates over a distance, this action is appropriately defined as telecommunications. Calls to access the Internet do not terminate at the ISP, because the function of the call carried to the Internet requires communication with another party (albeit in cyberspace). The notion that ISPs only provide information services rests on the ancient history of their proprietary systems. Rationalizing reciprocal compensation paid by the ILECs may prove useful fiction for CLECs and regulators, but it is no longer accurate, because Internet users are using the medium for communications.

In resolving the devilish problem of reciprocal compensation for ISP-bound traffic, state commissions may choose from among several paths. They might follow Texas (which borrowed from the New York approach) and limit compensation based on the length of calls being terminated by the CLECs. Applying some formula with a low cost-per-minute, and perhaps with a cap, is one pragmatic option, but this course cements the legal fiction that ISPs provide only information services. Facts and daily experience, to the contrary, clearly illustrate the communication functions of the Internet. As long as CLECs maintain that ISP-bound traffic is local, and thereby eligible for reciprocal compensation, they will resist the terms offered by the ILECs.²³² The inevitable result of this stalemate would further burden the state commissions. The failure of the state commissions to promptly resolve this dispute would invite either the FCC to reissue its

increase of 11.5 percent over August 1998.

Id. at 55.

232. After reading an earlier draft of this Article, Edwin Parker, a telecommunications consultant, offered this polemical call and response "Question: When is a contract not a contract? Answer: When one party is an RBOC and it doesn't like the outcome." With all due respect, these initial interconnection agreements were not voluntary contracts for two important reasons: (1) the ILECs were mandated by the 1996 Act to participate in these negotiations; and (2) most of the agreements were the product of mediation or arbitration. To the basic point of this analogy, however, contract law provides ample precedent for aggrieved parties to seek judicial relief when extraordinary events make the initial terms of a contractual agreement untenable. In this context, the popularity of the Internet proved just such an external, unforeseeable event. Lastly, because the ILECs had substantive reasons to conclude that ISP-bound traffic was jurisdictionally interstate, they justifiably sought relief from state and federal regulators.

Declaratory Ruling or Congress to intervene.²³³

State commissions could follow the leadership of Massachusetts and Colorado in ruling that ISP-bound traffic is interstate by jurisdiction. Such action preserves their jurisdiction over these interconnection matters, facilitating subsequent rounds of interconnection agreements. This approach also provides the rare virtue of restoring the integrity of the language used in these discussions. *Telecommunications is communications over distance*—a contemporary description of how hundreds of millions of people use the Internet throughout the world. The term “information services” should be restored to its original definition—information provided within a proprietary system. To suggest, as a few apologists have volunteered, that the ISP industry cannot unbundle these two services for accounting purposes undermines its credibility.

Regulators face difficult choices when confronted with new technologies and new services. The distinction drawn by the FCC in 1983 between information services and telecommunications was valid then.²³⁴ Today, however, the Internet provides communication functions, which are growing so rapidly that public regulators should revisit this distinction to achieve regulatory symmetry. The failure to act promptly may leave the PSTN vulnerable as telephony continues to gravitate to wireless technologies and voice becomes packetized as data.²³⁵ Perhaps the PSTN will evolve smoothly and effortlessly to accommodate the thrust into the digital future, but perhaps not.²³⁶

233. See *House Members Criticize CLECs for Reciprocal Compensation Scam*, TELECOM AM, June 23, 2000. “At a hearing on a bill (HR-4445) aimed at eliminating reciprocal compensation for ISP-bound calls, Subcommittee Chair Billy Tauzin [] said CLECs are guilty of ‘highway robbery,’ while others on the subcommittee accused them of being ‘scam’ operators.” *Id.*

234. Note the same definitions are key to the cable open/forced access issue: The Ninth Circuit Court of Appeals ruled that the FCC had the responsibility to establish a national broadband policy for the country. *AT&T Corp. v. City of Portland*, 216 F.3d 871, 877-80 (9th Cir. 2000). The court determined that high-speed Internet access over the cable plant was both a “telecommunications” service and an “information” service. *Id.* Former Chairman William E. Kennard announced on June 30, 2000, that he had “asked the FCC staff to develop a framework for addressing these issues.” FCC News, *FCC Chairman to Launch Proceeding on “Cable Access”* (June 30, 2000), available at http://www.fcc.gov/Daily_Releases/Daily_Business/2000/db0703/nrcb0017.html.

235. Recall Licklider’s cautionary warning: “People tend to overestimate what can be done in one year and to underestimate what can be done in five or ten years.” J.C.R. LICKLIDER, *LIBRARIES OF THE FUTURE* 17 (1965).

236. See Clifford R. Holliday, *We Have Found the Killer App—and it Is Killing Us*, NEW TELECOM Q., 4th Quarter 1997, available at http://www.tfi.com/pubs/ntq/articles/view/97Q4_A7.html (last visited Feb. 1, 2001); see also POLICIES ON PRICING AND UNIVERSAL SERVICE, *supra* note 16, at iv.

Although several avenues are open for evolution to networks that support data

ISP-bound traffic is interstate by jurisdiction because these calls enable an individual to communicate over distances with other parties. Although the FCC clearly has jurisdiction over this issue, it has pushed the matter back onto the state commissions. Certainly, the state commissions are capable and competent. They can resolve these disputes by themselves. If, however, the state commissions do not resolve these disputes on reciprocal compensation, injured parties will continue to seek relief from the FCC and in Congress.²³⁷ The most important lesson from the history of communications in this country is that companies will aggressively seek the most appropriate forum in which to advance their strategic corporate interests. Corporate advocacy shapes public opinion and often influences public policy.²³⁸

VI. CONCLUSION: A NEW REGULATORY PARADIGM

Bargaining among various interests characterized the regulatory approach during the regime of monopoly providers of telecommunications services.²³⁹ The verb “bargaining” suggests that regulators had

better than the existing PSN, the current exemption of [ISPs] from access charges inhibits that transition. The comparative price of compatible customer premises equipment and local lines with packet switching capability versus current analog modems and circuit switching is a disincentive for Internet users to migrate to data-friendly technology. The exemption of ISPs from access charges distorts prices and sends incorrect economic signals to end users and the ISPs themselves. Until end user demands for bandwidth force ISPs to use what are probably more expensive data networks, ISPs will continue to purchase analog lines and use modems to change digital messages to analog and back to digital packets for delivery over the packet network. So, to some unknown extent, the exemption is helping to keep the Internet from growing into a mature multimedia network.

Id.

237. Alert to potential encroachment on state jurisdiction, the NARUC Board of Directors adopted a resolution on this issue on July 25, 2000, at its meeting in Los Angeles. The resolution recommended ‘that the FCC and Congress avoid imposing “one-size-fits-all” solutions to issues concerning reciprocal compensation . . .’ and opposes federal legislation that prevents “states from tailoring the treatment of compensation for the completion of all relevant calls to ensure an appropriate balance among the locally competing interests.” Barbara Combs, *Reciprocal Compensation for ISP-bound Traffic—Summary of State Activities*, prepared for the Summer 2000 NARUC meeting (July 26, 2000) (copy on file with the *Federal Communications Law Journal*.)

238. See TELEWARS, *supra* note 22.

239. See SIDAK & SPULBER, *supra* note 132, at 112.

[T]he regulatory process involves *bargaining* among the regulatory authority, the regulated firm, its customers, and other interested market participants. The bargaining process encompasses cost measurement, cost allocation, quality of service, and allowed rate of return. Negotiation results in rates and investment plans for the utility to provide service within its service area.

Id.

unambiguous institutional imperatives and adequate information.²⁴⁰ The constant balancing of competing social objectives²⁴¹ might be a better way to describe the telephone industry's history of regulation in the twentieth century: improve the quality and reliability of telephone services; keep residential rates low and protect consumers; expand services throughout the nation; provide reasonable returns to stockholders to ensure adequate telecommunications infrastructure investment; and thereby serve the (undefined) public interest.

Each of these social objectives remains important to public regulators, but the new federal policy mandate to allow competition to shape the industry, guide investments, and develop new technologies adds to this already full plate.²⁴² The synergy of competitive investment and technological advances is accelerating the pace of change in telecommunications, yet the regulatory structure continues to drag along at its interminable (and glacial) crawl.

State regulators hold an important responsibility to protect the poorly defined public interest during this transition to competition in local telephony. Specifically, state regulators must ensure that "service providers do not shift network costs or reduce service quality in communities where they maintain monopoly power to respond with cheaper prices and better service to communities where they face competition."²⁴³ Another important challenge relates to nurturing advanced telecommunications in areas that

240. See Heather E. Campbell, *The Politics of Requesting: Strategic Behavior and Public Utility Regulation*, 15 J. OF POL'Y ANALYSIS & MGMT. 395 (1996). Campbell specifies a model that includes "stylized actors representing the firm, the regulator, the intervener, and customers all acting under uncertainty about the future. There are also important information asymmetries: The firm knows the most about its costs, the regulator less, the interveners little, and customers essentially nothing." *Id.* at 399.

241. See Charles E. Lindblom, *The Science of "Muddling Through,"* 19 PUB. ADMIN. REV. 78, 78-88 (1959).

242. "The challenge lays in finding an approach that allows markets to continue their move toward increased competition, but which allows commissions or other entities to continue their role of protecting the interests of citizens, ratepayers, and other constituents in the future." Rowe, *supra* note 77, at 889; see also SIDAK & SPULBER, *supra* note 132, at 16.

[W]e challenge the conventional wisdom that in network industries undergoing deregulation the regulator must "promote" and then "protect" competition. Such a policy is not truly deregulation, for it installs the regulator as a permanent referee for competitive disputes. . . . Attempts to manage competition not only entail administrative costs, but also can prevent the market from achieving the benefits of competition that regulators seek to attain. Similarly, regulators need not "protect" competition once they have allowed it to occur. Market incentives are sufficient to allow competition to flourish.

Id.

243. William Gillis & Steve McLellan, *Rural Telecommunications—From Market Failure to Market Opportunity*, NEW TELECOM Q., Feb. 1996, at 8, 12.

lack effective demand for them, and resolving the distribution question of paying for them. These issues reflect the paramount goal of ensuring universal service, the dominant social ideal of telecommunications policy in the twentieth century.²⁴⁴

Yet, the workload of the state commissions is shifting away from rate hearings and toward becoming referees among competing providers.²⁴⁵ In this competitive era, two principles must guide regulators to establish a level playing field as we hurtle into the digital future: First, government may not impose regulatory burdens on any firm without adequately compensating the firm, and, second, policymakers must work toward neutrality among various technologies to enable markets to allocate resources and services that enhance the public welfare in this competitive era. Inter-carrier compensation should reflect the actual costs of carrying traffic originating on other networks. Maintaining the future quality and integrity of the network of networks rests upon the ability of public regulators to achieve this intermediate policy objective, and is essential in advancing broad universal service goals.

244. POLICIES ON PRICING AND UNIVERSAL SERVICE, *supra* note 16, at 32:

[U]niversal service is only one of many public policy goals for telecommunications industries, some of which conflict in real world applications. Additional goals include: (1) development of competitive markets; (2) deployment of advanced telecommunications infrastructure in all markets; (3) encouragement of technological innovation; (4) use of deregulation, lesser regulation and/or forbearance; and (5) affordable access for essential public institutions.

245. "We believe that the role of the regulator will increasingly become one of a neutral dispute mediator between parties unable to reach agreements through good faith negotiations." Gillis & McLellan, *supra* note 243, at 15. See also DAVID W. WIRICK, NEW MODELS OF REGULATORY COMMISSION PERFORMANCE: THE DIVERSITY IMPERATIVE (1999), available at <http://www.nrri.ohio-state.edu/sum1999.htm#99-15> (last visited Jan. 27, 2001).