

# THE AMBULANCE, THE SQUAD CAR, & THE INTERNET

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## TABLE OF CONTENTS

I. INTRODUCTION .....	874
II. THE MARKET CONTEXT.....	877
III. FCC INTERNET SOCIAL POLICIES.....	888
A. TELEPHONY V. INTERNET .....	889
B. E911 .....	893
1. <i>Background</i> .....	895
2. <i>Implementation Difficulties</i> .....	899
3. <i>The Capture Story</i> .....	905
C. CALEA .....	911
1. <i>Background</i> .....	911
2. <i>Implementation Difficulties</i> .....	915
3. <i>The Capture Story</i> .....	921
IV. NEW FORMS OF CAPTURE.....	925
A. DELEGATION .....	925
B. EXPERTISE .....	931
C. CAPTURE THEORY .....	933
1. <i>Comparison of New Capture to Old Capture</i> .....	933
2. <i>The Limits of Traditional Answers to Capture</i> .....	939
V. BETTER WAYS FORWARD .....	939
VI. CONCLUSION.....	942

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## I. INTRODUCTION

The Federal Communications Commission (FCC) moved swiftly in 2005 to extend E911<sup>1</sup> and CALEA<sup>2</sup> requirements—two “social policies”<sup>3</sup> that had been applied to telephone companies—to broadband internet access providers and providers of online applications. E911, broadly speaking, requires telephone companies to provide location information to a dedicated call center for anyone calling 911.<sup>4</sup> CALEA, in general, requires telephone companies to design their services so that they are easily tappable by law enforcement.<sup>5</sup> In the E911 context, dominant vendors of outsourced E911 compliance services persuaded the FCC to insist that online businesses find ways to make their services work with 30-year-old legacy emergency hardware (access to which is controlled by those vendors). In the CALEA context, law enforcement persuaded the Commission to require online businesses and broadband access providers to make their ser-

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1. *In re* IP-Enabled Services and E911 Requirements for IP-Enabled Service Providers, 20 F.C.C.R. 10,245 (May 19, 2005) [hereinafter E911 Order], available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-05-116A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-116A1.pdf). The E911 Order requires providers of “interconnected VoIP” services (roughly, Voice over Internet Protocol online services that connect to the traditional telephone network) to make traditional 911 access available to their subscribers by November 28, 2005. *Id.* at 10,246, 10,267; E911 Requirements for IP-Enabled Services, 70 Fed. Reg. 37,273 (June 29, 2005) (to be codified at 47 C.F.R. pt. 9) (stating effective date and compliance date).

2. *In re* Commc’ns Assistance for Law Enforcement Act and Broadband Access and Servs., 20 F.C.C.R. 14,989 (Aug. 5, 2005) [hereinafter CALEA Order], available at <http://www.askcalea.net/docs/20050923-fcc-05-153.pdf>. The Communications Assistance for Law Enforcement Act (CALEA) Order states that providers of interconnected VoIP services and broadband internet access are required to comply with CALEA by May 2007 by making their applications and facilities easily tappable by law enforcement. *Id.* ¶ 3; Communications Assistance for Law Enforcement Act and Broadband Access and Services, 70 Fed. Reg. 59,664 (Oct. 13, 2005) (to be codified at 47 C.F.R. pt. 64) (stating effective date and compliance date).

3. The Commission uses the term “social policies” as a blanket descriptor for a list of regulations that have been applied to traditional telephones and are not related to the rates charged for particular services. *See, e.g., In re* IP-Enabled Servs., WC No. 04-36, ¶ 36 (Fed. Commc’ns Comm’n Mar. 10, 2004) [hereinafter IP NPRM], available at <http://www.askcalea.net/docs/20040310.fcc.04-28.pdf>. “We . . . focus primarily on [distinguishing] services that might be viewed as replacements for traditional voice telephony ([raising] *social policy* concerns relating to emergency services, law enforcement, access by individuals with disabilities, [etc.]) from other services ( . . . not [raising] these same regulatory questions to the same extent).” *Id.* ¶ 36 (emphasis added); *see* Susan P. Crawford, *Shortness of Vision: Regulatory Ambition in the Digital Age*, 74 *FORDHAM L. REV.* 695, 714-19 (2005) (describing the IP NPRM and “social policy” approach in global context of internet regulation).

4. E911 Order, *supra* note 1, at 10,246.

5. CALEA Order, *supra* note 2, ¶¶ 2-8.

vices acceptable to law enforcement—either before those services are launched, thus constraining innovation, or for existing services at great retrofitting expense. In both settings, the FCC plunged quickly ahead to apply these policies to the internet with little consideration either for the economic impacts of its choices or for alternative strategies that might have been employed. And both policies have been lifted largely unchanged from the world of telephony, even though the internet presents a very different technical and economic context.

These proceedings, taken together, provide a case study in a new form of digital era regulatory capture. Where an independent agency believes it has a broad delegation of power from Congress over new technology, and has a political agenda and the technical assistance of dominant, unregulated entities intent on retaining the advantages that old technology gave them, incumbents can easily use regulation to raise the costs of entry for new competitors. In this case, assistance came from providers of outsourced compliance services to telephone companies, and from the Department of Justice, a powerful sister agency. Unlike the usual tale of regulatory capture, the work of FCC staff on these rulemakings was not necessarily corrupt, and can be explained in part by the cultural background of staff—their traditional telephony or “bellhead” orientation. But the interplay among the key players in this new form of capture has resulted in a toxic environment for new online businesses established to compete with traditional telecommunications providers: The combination of hard social questions, the ever-present threat of terrorism, captured but well-meaning staff, law enforcement heavy-handedness, dominant vendors of compliance services, and well-funded activities of rent-seeking incumbents has resulted in an unaccountable independent agency creating substantial barriers to entry for a significant portion of the American economy. The FCC’s application of E911 and CALEA policies to the internet has already sparked lawsuits.<sup>6</sup> Although there are as yet no judicial opinions on these matters, a line from an article by Professor Thomas Merrill encourages me to proceed: “Legal scholars who take their cues from courts will always end up playing ‘catch-up,’ attempting to integrate judicial innovations with previously established understandings and (perhaps) with social science literature. But they will rarely serve as catalysts for

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6. Chérie R. Kiser & Ernest C. Cooper, *Application of CALEA to Cable Operators: Current Issues and Status of FCC Rulemaking*, MONDAQ (Dec. 15, 2005), <http://www.mondaq.com/article.asp?articleid=37246&lastestnews=1> (discussing cases challenging CALEA Order consolidated in *Am. Council on Educ. v. FCC*, No. 05-1404 (D.C. Cir. filed Oct. 24, 2005)); *Nuvio Corp. v. FCC*, No. 05-1248 (D.C. Cir. filed Nov. 8, 2005) (challenging E911 Order) (on file with author).

change.”<sup>7</sup> This Article tells the story of this new form of regulatory capture, and is aimed at galvanizing congressional action to constrain the Commission’s currently apparently unlimited discretion to regulate the internet.

The early rulemakings I discuss in this Article rely on assumptions: we are in a new age, *and therefore* social policies from the old age need to be brought forward into this new age. We are referred back, ceaselessly, to the need to assuage fears about emergency services and law enforcement access—to bring in the ambulance and the squad car—without much analysis. The FCC says only that it wants to provide a “level playing field” for the digital age by treating everyone alike in implementing these “social policies” online. It is requiring that these policies be carried out in a centralized, unitary, command-and-control fashion that is well-suited to the world of telephones. But the internet should have taught us, by now, that there are alternative ways to reach our social policy goals. The argument is not that the new actors discussed in this Article should be exempt from emergency and law enforcement concerns. Although there is a case to be made for that argument, it is politically untenable, and I do not advance it here. Instead, I suggest that by insisting that these actors pursue these ends by the same means as traditional telephone providers, we have both missed crucial opportunities and imposed heavy costs on new market entrants. In addition to outlining the case studies of regulatory capture provided by these proceedings, this Article examines the alternative routes that Congress might want to follow in the future.

To describe the capture case studies and suggest alternative routes requires some groundwork. Part II lays out the social concerns that underlie the E911 and CALEA rulemakings, describes the history of both of these efforts and the dynamic cooperation between third-party vendors of outsourced services, law enforcement/public safety officials, and staff, and details the enormous implementation difficulties that have been caused by the FCC’s rush to impose these social policies on online businesses.

These two rulemakings are at different stages. In the E911 context, the third-party outsourced service providers and incumbent telephone companies have successfully managed to convince the FCC to create a standard that serves their business interests and puts their competitors out of business. In the CALEA context, law enforcement has managed to convince the FCC to create a legally tenuous threat of non-compliance liability without saying what compliance actually entails.

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7. Thomas Merrill, *Capture Theory and the Courts: 1967-1983*, 72 CHI.-KENT L. REV. 1039, 1067 (1997).

Part III sketches the market context for the E911 and CALEA rulemakings by introducing the *dramatis personae* involved in both proceedings. In brief, incumbent telephone companies are being undermined daily by the success of new online services, vendors of compliance services to traditional telephone companies are looking for new market niches to serve, and law enforcement and emergency services authorities are longing for the relative simplicity of the days of telephony. Part IV compares the case studies of regulatory capture provided by these rulemakings to prior capture narratives and suggests that we have moved into a new era of regulatory capture in the digital era. Part V outlines alternative ways in which the social policies embodied in the E911 and CALEA rulemakings might be implemented, and what role Congress should take at this pivotal moment in the short history of the internet.

## II. THE MARKET CONTEXT

When Congress passed the Telecommunications Act of 1996,<sup>8</sup> few people had heard of “broadband,” and telephone companies were selling telephone services. Today, the telephone companies are angling to provide television services and, according to the FCC, 38 million Americans—about 60% of active internet users in the U.S.—have broadband access.<sup>9</sup>

In this new world, the nation’s Baby Bell telephone companies—Verizon, SBC, BellSouth, and Qwest, the companies remaining from the seven original Baby Bells that were created in 1984 with the breakup of AT&T—have been struggling, cutting jobs, and losing market value. Telecommunications companies are losing local wireline (traditional) tele-

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8. 47 U.S.C. § 609 (2000).

9. See Press Release, FCC, Federal Communications Commission Releases Data on High-Speed Services for Internet Access, July 7, 2005, available at [http://www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/IAD/hspd0705.pdf](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd0705.pdf) (last visited Mar 1, 2006). Internet access speeds are measured in kilobits per second (kbps) and megabits per second (Mbps). The FCC’s claims about U.S. broadband access have been sharply disputed because the FCC considers anything over 200 kbps to be “broadband.” *Id.*; see also S. Derek Turner, *Broadband Reality Check: The FCC Ignores America’s Digital Divide*, FREE PRESS, Aug. 2005, [http://www.freepress.net/docs/broadband\\_report.pdf](http://www.freepress.net/docs/broadband_report.pdf). This speed is too low to receive low-quality video, much less originate high-quality video. Turner, *supra*, at 2. In comparison, dial-up speed is around 56 kbps. Dial-up Access, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Dial-up> (last visited Mar. 16, 2006). The International Telecommunication Union (ITU) reported that in 2005 the top five nations for broadband network market penetration were Korea, Hong Kong, the Netherlands, Denmark, and Canada. Turner, *supra*, at 4 (citing ITU, April 13, 2005, <http://www.itu.int/osg/spu/newslog/ITUs+New+Broadband+Statistics+For+1+January+2005.aspx>). The ITU ranked the United States sixteenth in broadband penetration. *Id.*

phone customers to VoIP and wireless services at a rate of about 5% of their basic phone subscribers each year.<sup>10</sup> According to a September 2005 report, 6% of U.S. households now have *only* wireless phones.<sup>11</sup> Since 2000, the number of wireline subscribers has fallen by 13.5 million, to 178 million in 2005.<sup>12</sup> SBC and Verizon lost 1.3 million and 3 million access lines, respectively, between June 30, 2004 and June 30, 2005.<sup>13</sup>

These Baby Bell difficulties relate to the growth of VoIP usage in the U.S. Although the idea of offering voice services online is not new,<sup>14</sup> the availability of broadband access and special VoIP equipment has made these services truly attractive to consumers. The uptick in VoIP usage began in 2002, when 50-employee Vonage Holdings Corp. offered a much cheaper internet-based voice service that worked through telephone-like handsets connected to adapters that could packetize voice.<sup>15</sup> Consumers no longer needed to talk into their PCs.

Vonage can offer voice services more cheaply than traditional telephone companies because Vonage customers do not have to pay the taxes and access fees associated with traditional phone service.<sup>16</sup> Vonage, advertising itself as “The Broadband Phone Company”<sup>17</sup> and using ads that poke fun at people who pay too much for phone service, has grown quickly since 2002, and now has 1500 employees and more than 800,000 subscribers.<sup>18</sup> And free or nearly free voice offerings from Skype, Yahoo!,

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10. See Jon Arnold, *The IP Heat Is On*, TELECOMMS. AMS., Feb. 14, 2005, at 8, available at 2005 WLNR 4973909; Leslie Cauley, *BellSouth Likes To Go It Alone*, USA TODAY, Nov. 1, 2005, available at [http://www.usatoday.com/tech/news/techpolicy/business/2005-10-31-bellsouth-mergers\\_x.htm](http://www.usatoday.com/tech/news/techpolicy/business/2005-10-31-bellsouth-mergers_x.htm).

11. See THE INSIGHT RESEARCH CORP., FIXED MOBILE CONVERGENCE: SINGLE PHONE SOLUTIONS FOR WIRELESS, WIRELINE, AND VOIP CONVERGENCE: 2005-2010 (2005), <http://www.insight-corp.com/reports/fixmobcon.asp>.

12. Elizabeth Wasserman, *The New Telecom Wars: Looking to Update a Landmark Law*, CQ WEEKLY, Nov. 14, 2005, at 3049.

13. Mike Farrell, *Dialing Without Dollars: Price Pressures Could Wring Profit Out of Cable's Booming Telephone Business*, MULTICHANNEL NEWS, Oct. 3, 2005, <http://www.multichannel.com/article/CA6262221.html?display=Search+Results&text=dialing+without+dollars>.

14. Net2Phone has been selling voice services since 1996. See About Net2Phone, <http://web.net2phone.com/about> (last visited Mar. 1, 2006).

15. See Shawn Young, *Talk is Too Cheap: VoIP Profits Grow Scarce*, GLOBE AND MAIL (TORONTO), Aug. 26, 2005, <http://www.theglobeandmail.com/servlet/ArticleNews/TPStory/LAC/20050826/WSJVOIP26>.

16. See Tom Johnson, *Calling the Shots and Holding the Line*, STAR LEDGER, Aug. 16, 2005, at B25, available at 2005 WLNR 12895661.

17. See Vonage, <http://www.vonage.com> (last visited Mar 16, 2006).

18. See Young, *supra* note 15.

MSN, and Google complicate things further for the Baby Bells.<sup>19</sup> eBay's recent purchase of Skype increases the probability that Skype, with its 49 million users worldwide, will be a powerful player in North America even though it currently has only about 260,000 paying users.<sup>20</sup> VoIP services in general are growing quickly. There are now between 2 and 3 million VoIP subscribers in the U.S., and there are projected to be between 12 and 40 million by 2011.<sup>21</sup>

All of this activity has forced some striking price reductions in online voice services. Vonage cut its prices by nearly 30% in 2004. Comcast's decision to enter the online voice market is representative of a trend among cable companies to enter this market at very low prices.<sup>22</sup> The Baby Bells are hoping to survive this price-cutting, as they survived the long-distance price wars in the 1990s.<sup>23</sup> And the Baby Bells are beginning to launch their own VoIP plans. For example, AT&T initiated its online voice service, called CallVantage, in April 2004, and charged a flat rate of \$40/month for all types of calls.<sup>24</sup> In response, Vonage lowered its monthly rates.<sup>25</sup> Verizon is now offering VoiceWing to customers for \$35/month, and Vonage, AT&T, and Verizon have all introduced even lower-cost plans.<sup>26</sup> Voice service online is becoming essentially free.

With one of their key business areas slipping away, the Baby Bells are looking for an operating plan that will allow them to survive. They are betting that, even if voice becomes essentially free, consumers will pay for bundled packages that include on-demand movies and other video services plus voice and data.<sup>27</sup> The Baby Bells believe—possibly rightly—that consumers would prefer to receive only one bill for all the communications services they use, and that online video services controlled by the access provider will be attractive to their subscribers. In effect, the Baby Bells are planning to combine all of their offerings on a single network

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19. See Ben Charney, *Big Players Enter VoIP Game*, EWEEK, Sept. 20, 2005, <http://www.eweek.com/article2/0,1895,1861275,00.asp>.

20. Cf. Farrell, *supra* note 13.

21. Joyzelle Davis, *VoIP Battle Heats Up*, ROCKY MOUNTAIN NEWS, Nov. 7, 2005, at 1B; Farrell, *supra* note 13; Cauley, *supra* note 10.

22. Young, *supra* note 15.

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.*

27. See, e.g., Michael Khalilian & Farshid Mohammadi, *Carriers Win Big with Triple-Play IP Services*, PHONE+, June 2004, available at <http://www.phoneplusmag.com/articles/461soap.html>; David LaGessee, *The Battle Over Bundles*, U.S. NEWS, Mar. 20, 2006, available at <http://www.usnews.com/usnews/biztech/articles/060320/20phone.htm>.

instead of having separate networks for telephone, cell phone, internet, and television services, so that users can get to their e-mail from their television sets or any other network device, and see caller ID information on any device whenever the phone rings.<sup>28</sup> Throughout most of 2005, therefore, the Baby Bells bombarded the nation with advertisements for packages that included landline and wireless voice products, VoIP, internet access, and video services. They also began pushing for legislation that would allow them to offer “premium” packages of services.<sup>29</sup>

In order to be confident that consumers will be willing to pay for these packages, the Baby Bells have worked hard to ensure that their networks will not be subject to common carriage or non-discrimination obligations that might force these network managers to carry competing voice or video services<sup>30</sup> such as Skype or Google Video. Immediately following the Supreme Court’s *Brand X* decision in 2005,<sup>31</sup> which made clear that cable networks had no common carriage obligations, the Baby Bells demanded that DSL services be similarly released from any requirement to connect to all ISPs or carry all services. In August 2005, they achieved this goal with the issuance of the FCC’s Wireline DSL order.<sup>32</sup>

Many non-Bell VoIP and video/audio application providers want to reach Bell subscribers and there is a tussle now over whether the Baby Bells can either insist that these other application providers pay them for the privilege of being accessed by end-users, or subtly discriminate against non-Bell applications by degrading the quality of service experienced by users when using these other applications. The Baby Bells have been extraordinarily active politically in trying to make sure that they have the power to control their last-mile networks, the funds for the building of which may have been provided by their subscribers in the first place. Ac-

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28. See John C. Roper, *FCC Puts Off Merger Votes*, HOUSTON CHRON., Oct. 29, 2005, available at 2005 WLNR 17494376.

29. See Anne Broache & Declan McCullagh, *Playing Favorites on the Net?*, CNET NEWS.COM, Dec. 21, 2005, [http://news.com.com/Playing+favorites+on+the+Net/2100-1028\\_3-6003281.html](http://news.com.com/Playing+favorites+on+the+Net/2100-1028_3-6003281.html) (“A bill expected early next year in the U.S. House of Representatives, coupled with recent comments made by executives from BellSouth and the newly merged AT&T and SBC Communications, has raised the prospect of a two-tiered internet in which some services—especially video—would be favored over others.”).

30. See 47 U.S.C. § 151 (2000) (defining common carrier requirements).

31. Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs., 125 S. Ct. 2688 (2005).

32. *In re* Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC No. 02-33, ¶ 5 (Fed. Commc’ns Comm’n Sept. 23, 2005) [hereinafter DSL Order] (classifying wireline broadband internet access service (DSL) as an information service under the Communications Act), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-05-150A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-150A1.pdf).



ording to the Center for Responsive Politics, the Baby Bells have given more than \$44 million since 1999 to federal candidates and parties (almost 60% to currently-powerful and traditionally deregulatory Republicans).<sup>33</sup>

In addition to consolidating consumers' bills, the Baby Bells are consolidating themselves. By the end of 2005, SBC, having purchased AT&T, dominated the western U.S. as the largest telecommunications company in the country with about \$110 billion in annual revenue.<sup>34</sup> And Verizon, having purchased MCI, dominated the eastern portion of the country as the second largest telecom entity with about \$90 billion in annual revenue.<sup>35</sup>

The Baby Bells' argument that they should have greater control over their networks has found support in concerns about a related U.S. policy issue: broadband penetration. Whether because of the lack of competition for broadband provision, because of the peculiar physical characteristics of the wide-open U.S. landscape, or because of bad policy, the U.S. is falling behind in ensuring that its citizens have high-speed access to the internet. Studies by the Organization for Economic Cooperation and Development and the International Telecommunication Union have found that the U.S. is either 12th (OECD) or 16th (ITU) in the world in terms of the percentage of people having broadband access to the internet.<sup>36</sup> In addition, broadband speeds in other countries are often four to five times faster than they are in the U.S.<sup>37</sup> The Baby Bells argue that without control over who has access to their networks, they will have no incentives to maintain or improve those networks and thus improve America's standing in the race to connect citizens to the high-speed internet—and the Baby Bells and the cable companies together control the market for broadband access in America.<sup>38</sup> So the Baby Bells suggest implicitly and explicitly that the *quid pro quo* for improving the American broadband story should be control over their networks and the ability to block competing services unless

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33. *Untangling Telecom*, NEW JERSEY REC., Aug. 7, 2005, at B01.

34. Cauley, *supra* note 10.

35. *Id.*

36. Wasserman, *supra* note 12; *see also* Turner, *supra* note 9, at 3.

37. Wasserman, *supra* note 12 ("Internet services in South Korea, Japan and Italy can transfer data at eight to ten megabits per second . . . In the United States, cable users can download information from the Internet at about 3 to 6 megabits per second; DSL users . . . about 1.5 megabits per second."); *see also* Turner *supra* note 9, at 5-6.

38. At the moment, broadband access is provided by just two kinds of actors in the U.S. and ninety-five percent of U.S. zip codes broadband subscribers are served by cable and telephone companies. Cable has more subscribers than the Baby Bells do, with 21.4 million subscribers to the Baby Bells' 13.8 million. FCC, WIRELINE COMPETITION BUREAU, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF DECEMBER 31, 2004 2 (2005).

they are compensated for carrying them.<sup>39</sup> In November 2005, SBC Chairman Edward Whitacre made clear that SBC expected such control:

[Q] How concerned are you about Internet upstarts like Google[], MSN, Vonage, and others?

[A] How do you think they're going to get to customers? Through a broadband pipe. Cable companies have them. We have them. Now what they would like to do is use my pipes free, but I ain't going to let them do that because we have spent this capital and we have to have a return on it. So there's going to have to be some mechanism for these people who use these pipes to pay for the portion they're using. Why should they be allowed to use my pipes? The Internet can't be free in that sense, because we and the cable companies have made an investment and for a Google or Yahoo![] or Vonage or anybody to expect to use these pipes [for] free is nuts!<sup>40</sup>

Indeed, the larger goal of the Baby Bells is to do away with the traditional telephone network, with all of its common carrier obligations and history of tariffing, altogether. Most traditional telephone lines in the U.S. will be replaced over the next five to ten years with DSL or fiber optic cable.<sup>41</sup> The digital Internet Protocol<sup>42</sup> (IP) based systems of DSL and fiber are 30% to 60% cheaper to run than the old traditional telephone network.<sup>43</sup> So the traditional telephone companies are looking for ways to protect their markets against the depredations of their competitors as they move their businesses entirely onto the internet.

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39. Verso is already providing Skype blocking software to network providers. See Ted Shelton, *Verso Appliance Lets Enterprises Block Skype*, INFORMATIONWEEK, Sept. 21, 2005, <http://www.informationweek.com/shared/printableArticle.jhtml?articleID=171000619>.

40. Patricia O'Connell, *At SBC, It's All About "Scale and Scope"*, BUSINESSWEEK ONLINE, Nov. 7, 2005, [http://www.businessweek.com/@@n34h\\*IUQu7KtOwgA/magazine/content/05\\_45/b3958092.htm](http://www.businessweek.com/@@n34h*IUQu7KtOwgA/magazine/content/05_45/b3958092.htm); see also Arshad Mohammed, *SBC Head Ignites Access Debate*, WASH. POST, Nov. 4, 2005, at D01 (stating reactions to Whitacre statements, including "Internet companies said Whitacre was stating what they have long feared—that SBC and others may manage their networks to choke off access to Web sites or to target competing firms such as Vonage Holdings Corp. and Skype Technologies SA, which provide Internet-based phone services.").

41. Dave Burstein, *DSL (or Fiber) on Every Line*, DSL PRIME, Nov. 25, 2005, [http://www.dslprime.com/News\\_Articles/news\\_articles.htm](http://www.dslprime.com/News_Articles/news_articles.htm).

42. Internet Protocol (IP) is "[t]he protocol used to route a data packet from its source to its destination via the Internet." Red Hat Documentation, Red Hat Glossary, <http://www.redhat.com/docs/glossary> (last visited Mar. 1, 2006).

43. Dave Burstein, *7% of Japanese Can't Get DSL*, DSL PRIME, Nov. 25, 2005, [http://www.dslprime.com/News\\_Articles/news\\_articles.htm](http://www.dslprime.com/News_Articles/news_articles.htm).

One key market-protection move is to pile destructive regulations on new competitors.<sup>44</sup> Several of the Baby Bells have announced that they want to see that all VoIP providers meet the same “social policy” regulatory requirements that phone companies have had—including offering reliable emergency 911 service, submitting to the same federal wiretapping assistance guidelines to which traditional telephone companies are subject, contributing to the universal service fund, and paying access fees to connect to the traditional phone network.<sup>45</sup> I believe the Baby Bells themselves are content to comply with these regulations because they have assumed in their planning processes that they will be subject to these continuing costs. But new entrants may not have planned for this kind of permission-based future, and are likely to be put out of business by the regulatory machinations of the incumbents. Indeed, VoIP providers had been working on voluntarily providing better, more informational, Internet Protocol-based E911 services, but the Commission chose instead to adopt a plan that appeared to be aimed at raising their barriers to entry.

At the same time, a new class of regulatory capture players has emerged in the E911 and CALEA contexts: providers of outsourced com-

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44. Regulation is often used as a strategic barrier to entry. “An innocent entry barrier is unintentionally erected as a side effect of innocent profit maximization. In contrast, a strategic entry barrier is purposely erected to reduce the possibility of entry.” Steven Salop, *Strategic Entry Deterrence*, 69 AM. ECON. REV. 335, 335 (1979) (emphasis omitted); see James B. Speta, *Deregulating Telecommunications in Internet Time*, 61 WASH. & LEE L. REV. 1063, 1140 (2004) (examining the 1996 Telecommunications Act and suggesting that “[r]egulation that burdens new entrants should be more suspect than regulation that burdens incumbents”).

45. Wasserman, *supra* note 12. BellSouth CEO Duane Ackerman stated “Congress must ensure that all the base-line social obligations placed on the communications business are equitably apportioned and supported by all competitors . . . regardless of the technology they choose to serve the public.” *BellSouth CEO Ackerman Offers Recommendations for Next Telecom Act*, TECH L.J., Dec. 14, 2005, <http://www.techlawjournal.com/alert/2004/12/20.asp>; *Regulatory Aspects of Voice over Internet Protocol (VoIP): Hearing Before the Subcomm. on Commercial and Admin. Law of the H. Comm. on the Judiciary*, 108th Cong. 77 (2004) (statement of John Langhauser, Vice President, Law, and Chief Counsel, Consumer Services Group, AT&T) (“We agree with those who’ve said that providers of VoIP must meet important social policies.”). Verizon has stated that “[S]ome regulation of VoIP services is appropriate to effect important federal policy objectives. As Chairman Powell has recognized, ‘rules designed to ensure law enforcement access, universal service, disability access and emergency 911 service can and should be preserved in the new architecture.’ Verizon supports these objectives.” Comments of Verizon Telephone Cos., *In re IP-Enabled Servs.*, WC No. 04-36, *In re* Petition of SBC Communications Inc. for Forbearance Under 47 U.S.C. § 160 from Application of Title II Common Carrier Regulation, WC No. 04-29, at 47-48 (Fed. Comm’n Comm’n May 28, 2004), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516199830](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516199830).

pliance services to the Baby Bells. Intrado, a company that counts as its customers all of the Baby Bells and most of the nation's wireless carriers, has over the past 25 years created a database of 206 million subscriber records, and now handles more than 80% of the existing emergency call infrastructure in the United States.<sup>46</sup> Intrado's footprint and pre-existing relationships with all of the companies that control the specialized hardware—called “selective routers”—that must be used for access to the nation's 911 system have made it possible for Intrado to provide a nationwide compliance product to VoIP companies.<sup>47</sup> Intrado is the company that, under contracts with the Baby Bells, runs most of the selective routers that are the gateways to the E911 system.<sup>48</sup> In effect, Intrado is now in a position to deliver all of the major VoIP providers' E911 calls itself.<sup>49</sup> Verizon,<sup>50</sup> SBC (now AT&T),<sup>51</sup> Vonage,<sup>52</sup> and Qwest<sup>53</sup> all use Intrado for their VoIP E911 service. Intrado is the ultimate middleman in

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46. Here's How Vonage-Verizon E-911 Will Work, Posting of Russell Shaw to ZDNet: IP, Telephony, VoIP, Broadband (May 4, 2005, 02:26 PM), <http://blogs.zdnet.com/ip-telephony/?p=397>; Robyn Weisman, *AT&T-Intrado E911 Deal Sign of Things To Come in VoIP World*, EWEEK, Aug. 2, 2005, <http://www.eweek.com/article2/0,1895,1935168,00.asp>; TRDO: Security Play with Recurring Revenue and New Product Growth; MARKET PERFORM, Stifel, Nicolaus Co., Aug. 2003, <http://www.stifel.com/stifelresearchdocs/TRDO%20090903%20FC.pdf> (reporting an 81% Intrado market share in wireless and wireline 911 provisioning and that Intrado services almost all of the Baby Bells).

47. Intrado's customers include all of the Baby Bells (BellSouth, Qwest, SBC (now AT&T), and Verizon) and most of the wireless carriers in the U.S. Corporate Profile. Intrado, <http://www.intrado.com/main/company/history/intradocorporateprofile> (last visited Dec. 10, 2005).

48. See Letter of Mary Boyd, Intrado, WC No. 04-36, at Attach. 1, 4-5 (Apr. 25, 2005) (on file with author).

49. Johanne Torres, *Intrado Interconnects Local Exchange Carriers*, TMCNET, Nov. 17, 2005, <http://news.tmcnet.com/news/2005/nov/1206361.htm>; Robert Poe, *Intrado Lays the Groundwork for Nationwide VoIP E911*, VOIP MAG., Nov. 18, 2005, <http://www.voip-magazine.com/content/view/600/>; Charlotte Wolter, *Outsourced e911: Help is on the Way*, XCHANGE, Aug. 1, 2005, <http://www.xchangemag.com/articles/581backoffice1.html>.

50. See generally Verizon Compliance Report, *In re IP-Enabled Servs.*, WC No. 04-36, E911 Requirements for IP-Enabled Service Providers, WC No. 05-196 (Fed. Comm'n Comm'n Nov. 28, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518184175](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518184175).

51. Weisman, *supra* note 46.

52. Shaw, *supra* note 46.

53. *Extending the Privilege of 911 Service to VoIP Callers*, VoIP Newsletter (Mercator Capital, Reston, Va.), Jan. 2005, at 3, <http://www.mercatorcapital.com/newsletters/January2005newsletter.pdf> (listing Qwest, along with Vonage, AT&T, and Verizon, as Intrado customer for E911 VoIP services).

this setting; anyone who wants to connect to E911 in this country needs to talk to Intrado first.

Another company, Level 3, serves as a key middleman for connection to the crucial selective routers. Level 3 provides myriad infrastructure and telecommunications services to many telephone and cable companies in both the United States and Europe.<sup>54</sup> It is certified as a “telecommunications carrier” in all 50 states—in effect, it has the status of a competitor to the Baby Bells—and claims that it has the network infrastructure to provide wholesale VoIP (and thus E911) services in areas covering approximately 69% of all U.S. households.<sup>55</sup> The Baby Bells are required to permit Level 3 to interconnect with their E911 systems.

In the CALEA context, the key provider of outsourced compliance services is VeriSign, which presented itself to the FCC as able to provide outsourced “cost-effective CALEA support solutions” for all providers of broadband access and VoIP.<sup>56</sup> VeriSign suggested to the Commission that a “service bureau” approach to CALEA compliance would dramatically lower costs and simplify the task of law enforcement authorities, whose only interface would be with VeriSign rather than with all communications service providers.<sup>57</sup> VeriSign, which has announced publicly that its

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54. See Level 3 Communications, The Level 3 Story, <http://www.level3.com/576.html> (last visited Mar. 1, 2006) (noting that the ten largest internet service providers and the ten largest telecommunications carriers in the United States use Level 3). Level 3 is certified to connect to the selective routers around the country. See E-911: Enhanced 911 for VoIP, Level 3, [http://www.level3.com/userimages/dotcom/pdf/Level\\_3\\_E-911\\_Fact\\_Sheet.pdf](http://www.level3.com/userimages/dotcom/pdf/Level_3_E-911_Fact_Sheet.pdf) (last visited Mar. 1, 2006) (stating that Level 3 offers VoIP providers the ability to provide full E911 service for approximately 60% of U.S. households, and it plans to support 70% to 80% later in 2005).

55. Press Release, Level 3, Level 3 Selected by United Online to Enable VoIP Services (Dec. 15, 2005), available at <http://www.level3.com/press/6623.html>.

56. Comments of VeriSign, Inc., *In re* U.S. Dep’t of Justice, FBI, and DOJ Joint Petition for Rulemaking to Resolve Outstanding Issues Concerning the Implementation of CALEA, RM-10865, at 13 (Fed. Comm’n Comm’n Apr. 12, 2004), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516087646](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516087646).

57. See Ex Parte Presentation of VeriSign, Inc., *In re* Joint Petition for Rulemaking to Resolve Various Outstanding Issues Concerning Implementation of CALEA, RM-10865 (Apr. 15, 2004) (attaching slides suggesting, among other things, that a service bureau approach to CALEA would facilitate subpoena process because online users could be easily identified), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516088289](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516088289). “Since compliance with surveillance requests is a significant cost for carriers, telecommunications companies have acted as a check on government power, lobbying against excessive proposals. Now, private entities that profit from surveillance will have an incentive to lobby for more government surveillance pow-

goal is to have all suppliers of communications services as its customers,<sup>58</sup> asked that the Commission's Notice of Proposed Rulemaking (NPRM) give "special consideration" to service bureau architectures in implementing CALEA.<sup>59</sup> The resulting CALEA NPRM did exactly that: it outlined VeriSign's proposal that the use of a "trusted third party" be recognized as fulfilling CALEA compliance obligations, and included an appendix sketching out VeriSign's proposed flow of data between entities.<sup>60</sup>

In addition to the incumbents pushing for telephony rules to be applied to the online world, and the outsourcing vendors pushing for standardized business opportunities, law enforcement and emergency services providers were anxious to receive familiar forms of data from new online companies and for CALEA and E911 rules to apply to VoIP and other online applications.

The CALEA rulemaking process discussed in this Article began with a petition filed on behalf of the Federal Bureau of Investigation, the Department of Justice, and the Drug Enforcement Administration asking for clarification of the scope of CALEA.<sup>61</sup> The Joint Petition asked the FCC to declare that CALEA requires providers of broadband access services and VoIP services to design their facilities so as to make law enforcement wiretapping easier.<sup>62</sup> And the FCC, so far, has cooperated: In a notice of proposed rulemaking issued in August 2004, the FCC suggested that "facilities-based providers of any type of broadband Internet access service" and "'managed' VoIP services" were subject to CALEA.<sup>63</sup> More recently,

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ers." CALEA: The Perils of Wiretapping the Internet, Electronic Frontier Foundation, <http://www.eff.org/Privacy/Surveillance/CALEA> (last visited Mar. 1, 2006).

58. See Khali Henderson, *CALEA Compliance Goes Undercover*, PHONE+ (Jan. 2003), available at <http://www.phoneplusmag.com/articles/311FEAT4.html> ("The company [VeriSign] has the goal of supporting all suppliers, creating vendor neutral support for operators."). VeriSign, like Intrado, plans to migrate its pre-existing telecommunications carrier services to the online world. See VeriSign Comments, *supra* note 56, at 14-15.

59. Ex Parte Presentation of VeriSign, Inc., RM-10865, at 3 (Fed. Commc'ns Comm'n July 6, 2004), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516283062](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516283062).

60. Notice of Proposed Rulemaking and Declaratory Ruling, *In re CALEA and Broadband Access Servs.*, ET No. 04-295, ¶¶ 69-74 & app. C. (Fed. Commc'ns Comm'n Aug. 4, 2004) [hereinafter CALEA NPRM], available at <http://www.askcalea.net/docs/20040809.fcc.04-187.pdf>.

61. Joint Petition for Expedited Rulemaking, *In re U.S. Dep't of Justice, FBI, and DOJ Joint Petition for Rulemaking to Resolve Outstanding Issues Concerning the Implementation of CALEA*, ET No. 04-295 (Fed. Commc'ns Comm'n Mar. 10, 2004), available at <http://askcalea.net/docs/20040310.calea.jper.pdf>.

62. *Id.* at 3, 8, 15-17.

63. CALEA NPRM, *supra* note 60.

the Commission has issued an order declaring that broadband access and “interconnected” VoIP services are covered by CALEA.<sup>64</sup>

Ever since the 1994 enactment of CALEA, law enforcement, industry, and the FCC have been battling over what compliance with that statute requires of telecommunications carriers.<sup>65</sup> It is very likely that law enforcement authorities would like to replicate the call-identifying information that they have fought to obtain in the telephony world, and are interested in shifting the costs of sifting out that information to application providers and their customers.<sup>66</sup>

In the E911 context, the role of the emergency services community is less obvious than the role of law enforcement in the CALEA proceeding. But public safety officials from New York told the FCC that all VoIP applications should be immediately subject to E911 requirements.<sup>67</sup> Other

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64. CALEA Order, *supra* note 2, ¶ 7.

65. Industry groups came up with the first standard, which was known as the J-standard. Press Release, Telecommunications Industry Association, TIA and ATIS Publish Lawfully Authorized Electronic Surveillance Industry Standard (Dec. 5, 1997) (on file with author). The FBI took strong exception to the J-standard, and filed comments stating that the standard would have to be revised. *See* Comments of FBI, *In re* Implementation of CALEA, CC No. 97-213, at 36-38 (Fed. Commc’ns Comm’n Dec. 12, 1997); Reply Comments of the FBI, *In re* Implementation of CALEA, CC No. 97-213, at 4-7 (Fed. Commc’ns Comm’n Feb. 11, 1998), *available at* <http://www.askcalea.net/docs/980211.pdf>. The FBI then issued a list of additional requirements it wanted to see incorporated in the J-standard. *See* Joint Petition for Expedited Rulemaking, CC No. 97-213, at 35 (Fed. Commc’ns Comm’n Mar. 27, 1998) [hereinafter FBI Joint Petition], *available at* <http://www.askcalea.net/docs/980327.pdf> (addressing Establishment of Technical Requirements and Standards for Telecommunications Carrier Assistance Capabilities under the CALEA). The FBI Joint Petition asked for access to the communications of all parties in a conference call supported by the subscriber’s service or facilities; access to all subject-initiated dialing and signaling activity; information indicating whether a party is connected to a multi-party call at any given time (“party hold,” “party join,” and “party drop” messages); notification of messages for in-band and out-of-band signaling; timely delivery of call-identifying information; automated reporting of surveillance status; delivery of all call-identifying information over call data channels; and a limited number of standardized delivery interfaces. *Id.* at 20. These suggestions substantially raised the costs of compliance and led to litigation. *See* U.S. Telecomm. Ass’n v. FCC, 227 F.3d 450, 461-62 (D.C. Cir. 2000).

66. The CALEA NPRM sought further comment on how to define call-identifying information in packet technologies, and how much information is “reasonably available” to broadband access and VoIP providers. CALEA NPRM, *supra* note 60, at ¶ 2.

67. *See* Comments of Eliot Spitzer, *In re* IP-Enabled Servs., WC No. 04-36, at 5 (Fed. Commc’ns Comm’n May 28, 2004) (“VoIP providers’ products must allow their customers to access both traditional 911 and E911 systems.”), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516198823](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516198823); Comments of King County E911 Program, *In re* IP-Enabled Servs., WC No. 04-36, at 2 (Fed. Commc’ns Comm’n May 27, 2004) (“The public expectation is that any device

public officials from both the King County, Washington E911 Program and the City of New York have told the FCC that E911 calls should pass only through traditional selective router hardware. These officials were very concerned that VoIP providers would route 911 calls to “administrative numbers”—numbers answered, if at all, by whatever clerk happened to be on duty—inside call center buildings rather than through the selective router to emergency operators.<sup>68</sup> Many emergency services providers commented that they were concerned about losing funding for 911 services when phone subscribers switched to VoIP services.<sup>69</sup>

The combination of incumbent anxiety over future markets, third-party outsourced vendor interest in supplying compliance services, law enforcement’s desire for familiar forms of data, and public officials’ anxiety over funding for emergency services (as well as over retaining orthodox approaches to emergency service provision) produced an irresistible incentive for the FCC to adopt E911 and CALEA rules affecting online services. The following Part describes these rules and outlines the controversies surrounding their implementation.

### III. FCC INTERNET SOCIAL POLICIES

In March 2004, the FCC initiated a broad rulemaking proceeding suggesting that “social policies” from the world of telephony might be appropriate for the internet.<sup>70</sup> The FCC has begun its work in this area by focusing on two issues: availability of emergency 911 service and assistance to law enforcement. This Part describes, first, the differences between te-

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that can make voice phone calls can call 911 . . . [and] that full E911 service will be available on all telephone devices, including selective routing to the appropriate PSAP, and the provision of their call-back number and location information.”), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516188890](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516188890).

68. Comments of King County E911 Program, *supra* note 67, at 2; Letter of Gino Menchini, Comm’r, N.Y. Dep’t of Info. Tech. and Telecomm., *In re* IP-Enabled Servs., WC No. 04-36, at 1 (Fed. Commc’ns Comm’n Apr. 18, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517587651](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517587651); Letter of Gregory Ballentine, President, APCO Int’l, *In re* IP-Enabled Servs., WC No. 04-36, at 1 (Fed. Commc’ns Comm’n Apr. 15, 2005) (stating that while routing 911 calls to administrative numbers is “perhaps acceptable for some PSAPs, such an approach could endanger the public and disrupt already over-burdened PSAP operations” at others), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517519564](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517519564).

69. E911 Order, *supra* note 1, at 10,273-74 (citing comments).

70. IP NPRM, *supra* note 3 (statement of Comm’r Kathleen Q. Abernathy); *see* Crawford, *Shortness of Vision*, *supra* note 3, at 714-19 (describing IP NPRM in global context of internet regulation).



lephony and the internet and, second, how the Commission proposes to implement these social policies with respect to online services.<sup>71</sup>

### A. Telephony v. Internet

The fundamentals of telephony have not changed since its introduction. Early on, a pair of wires made up a circuit from the user to the operator and the operator would then complete the circuit between two users based on a caller's request. Later, the operator was replaced by automatic switching systems and the analog circuits were replaced by digital channels. But the overall operation and concept of the telephone network (the PSTN, or "public switched telephone network") remains the same. When a user requests it, the system opens a digital circuit between users for the duration of their call. This circuit carries the bits of information they want to send and, whether or not any user is saying anything, the circuit stays open until the call ends. Use of circuit switching therefore relies on intelligence—routing and processing decisions being made—residing at the center of the network. Indeed, a fundamental goal of telephony switches is to maintain control over circuits.<sup>72</sup> Every time a new service (such as call waiting) is introduced, a tremendous amount of re-engineering of the network is required. For this reason, the scope of telephony services has not changed very much over the last fifty years. The idea of "someone in authority" standing between the user and the network, so prevalent in the early days of telephony, still exists.

This "someone in authority" notion is deeply connected to the presence of police and emergency assistance for telephone users. Indeed, from the very beginning of the history of telephony in the U.S., a principal pur-

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71. Two other related initiatives, having to do with funding universal service and providing access to the disabled, are still under consideration and are not yet ripe enough to discuss. Chairman Martin has announced that imposing universal service funding obligations on internet services is one of his top priorities for 2006. Anne Broache, *FCC Chief Backs Net Phone Taxes*, CNET NEWS.COM, Dec. 14, 2005, [http://news.com.com/FCC+chief+backs+Net+phone+taxes/2100-7352\\_3-5995488.html](http://news.com.com/FCC+chief+backs+Net+phone+taxes/2100-7352_3-5995488.html). A third internet-focused FCC initiative constraining the functioning of devices capable of retransmitting marked digital files online—the "broadcast flag" rule—was struck down by the D.C. Circuit in mid-2005. See *Am. Lib. Ass'n v. FCC*, 406 F.3d 689, 708 (D.C. Cir. 2005); see generally Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L.J. 603 (2003) (describing broadcast flag proceeding and jurisdictional weaknesses of FCC's claims of authority to regulate design of devices, which includes personal computers, capable of processing TV signals).

72. See generally SUSAN LANDAU, SUN MICROSYSTEMS, NATIONAL SECURITY ON THE LINE 18 (2005) (discussing differences between circuit-switched and packet-switched networks) (citing ANDRE GIRARD, ROUTING AND DIMENSIONING IN CIRCUIT-SWITCHED NETWORKS 431 (1999)).

pose for telephone service has been to make emergency help available from a central source. Telephones are there to watch over us in our sleep. For example, a major emphasis of early Bell advertising was the usefulness of the telephone in times of emergency. An advertisement from 1905 reads: “The modern woman finds emergencies robbed of their terror by the telephone. She knows she can summon her physician, or if need be, call the police or fire department in less time than it ordinarily takes to ring for a servant.”<sup>73</sup> A 1910 Bell-funded telephone tract put the matter this way:

But it is in a dangerous crisis, when safety seems to hang upon a second, that the telephone is at its best. It is the instrument of emergencies, a sort of ubiquitous watchman. When the girl operator in the exchange hears a cry for help – “Quick! The hospital!” “The fire department!!” “The police!” she seldom waits to hear the number. She knows it. She is trained to save half-seconds. And it is at such moments, if ever, that the users of a telephone can appreciate its insurance value. No doubt, if a King Richard III were worsted on a modern battlefield, his instinctive cry would be, “My Kingdom for a telephone!” . . . When a small child is lost, or a convict has escaped from prison, or the forest is on fire, or some menace from the weather is at hand, the telephone bells clang out the news, just as the nerves jangle the bells of pain when the body is in danger. In one tragic case, the operator in Folsom, New Mexico, refused to quit her post until she had warned her people of a flood that had broken loose in the hills above the village. Because of her courage, nearly all were saved, though she herself was drowned at the switchboard. Her name—Mrs. S. J. Rooke—deserves to be remembered.<sup>74</sup>

An advertisement from the 1920s reads:

[M]y heart stood still . . . I heard stealthy voices . . . someone tinkering with a lock . . . a muffled footstep . . . saw a shadow flit by my window . . . I reached over to the stand by the bedside and seized—no, not a revolver—a telephone.<sup>75</sup>

An advertisement from the 1930s shows a picture of a little blond girl, arms innocently flung out in sleep. It reads: “Sleep Soundly, Little Lady. Mother and Daddy are near and the telephone is always close by. It

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73. CLAUDE S. FISCHER, *AMERICA CALLING: A SOCIAL HISTORY OF THE TELEPHONE TO 1940* 140 (1994).

74. HERBERT N. CASSON, *HISTORY OF THE TELEPHONE 211-13* (1911), available at <http://casson.thefreelibrary.com/History-of-the-Telephone/1-6>.

75. FISCHER, *supra* note 73, at 68.

doesn't go to sleep. All through the night it stands guard over you and millions of other little girls and boys."<sup>76</sup> An advertisement from the 1940s says that telephone service is a bargain because it is "[a]dvantageous to you because it saves time, steps, and trouble. Stands guard over the security of your home."<sup>77</sup>

Telephones are vigilant, centrally-controlled, located in an identifiable terrestrial place, and set up with services that the telephone company believes—or the government believes—are good ideas. By contrast, the internet has none of these characteristics. There is no one "in authority" between the user and the network, no central control, no necessary terrestrial connection to particular internet uses, no advertising for the internet touting its connection to emergency services, and anyone can begin a new service that is available around the world without asking permission from anyone else. An individual can make a VoIP call from a hotel room in London using a New York area code, and be for all purposes—except physical purposes—in New York.

The internet is not a telephony network in part because it is "packet switched" rather than "circuit switched," and in part because internet packets have no guarantees of service. The Internet Protocol can be understood as a language that allows the division of all communications into small packets that are then individually routed, one hop at a time, to their destination—without any router knowing more than where the next hop is. Because internet traffic has been packetized, there is no need for it to occupy a circuit for the full duration of an exchange. Instead, one can use the circuit just for the brief interval needed to transmit the packet. And because each packet has a unique source and destination address embedded in its header, simultaneous conversations can coexist on the same circuit without interfering with one another, and without anyone having to be in charge of the routing of these conversations.<sup>78</sup>

The telephone network was built for a single purpose: voice telephony. By contrast, the Internet Protocol provides a simple, common interface for all kinds of networked applications to run over all kinds of physical networks.<sup>79</sup> Thus, fiber-optic infrastructure or wireless connections provide a

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76. Advertisement on file with author.

77. *Id.*

78. *See generally* How Internet Infrastructure Works, <http://computer.howstuffworks.com/internet-infrastructure.htm> (last visited Mar. 1, 2006).

79. *See* Lawrence B. Solum & Minn Chung, *The Layers Principle: Internet Architecture and the Law*, 79 NOTRE DAME L. REV. 815, 822 (2004) (noting that layers are key architectural element of the internet and drive normative conclusions about internet regulation).

way for any networked application to be transmitted, and the Internet Protocol provides a predictable, well-defined interface for these transport mechanisms to work with applications.<sup>80</sup>

The Internet Protocol provides the means to allow the end-to-end principle first articulated in an important paper by Jerome Saltzer, David Reed, and David Clark in 1984 to be implemented.<sup>81</sup> The end-to-end principle suggests that the network itself should not filter or change the communications information contained in the IP packet's payload. Rather, such manipulation should occur only at the edges, at the level of end-user applications.<sup>82</sup> This end-to-end principle, like the Internet Protocol, keeps bits flowing freely across the lower levels of the protocol stack, to be processed only when they get much closer to the end-user—the edge of the network.

Where a central telephone provider must provide enhanced functionalities at a physical termination point, IP network design is highly decentralized, allowing substantial innovation to occur at the edges of the network. Internet routers have not, to date, been designed to maintain control or accountability over circuits, or even to remember anything about the packets that pass through them. Instead, internet routers are designed only to forward packets one more step toward their destinations, and have no necessary connection to geography. Because of its protocols and layers, the internet allows any application to be used on any network and in any geographical location.

The flexible and free protocols of the internet have made innovation easy. Having to ask permission to introduce a new service, at any layer, is enormously destructive to the internet model that has brought such great benefits to the U.S. economy.

By contrast, the telephone network is completely geographically dependent and has been designed to carry a single application. In telephone networks, that application (phone service) and the physical connection to

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80. *See id.* The layers concept has recently become a suggested model for regulatory intervention. In early 2004, MCI issued a paper suggesting that cable and telephone providers be required to make their networks available to others on a wholesale basis, citing (and relying on) the layers principle. *See generally* Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model*, 56 FED. COMM. L.J. 587 (2004).

81. *See* Jerome H. Saltzer et al., *End-to-End Arguments in System Design*, 2 ACM TRANSACTIONS ON COMPUTER SYSTEMS 277 (1984), available at <http://web.mit.edu/Saltzer/www/publications/endtoend/endtoend.pdf> (illustrating the end-to-end principle).

82. *See* David S. Isenberg, *The Dawn of the Stupid Network*, NETWORKER, Mar. 1998, at 24, available at <http://www.isen.com/papers/Dawnstupid.html>.

the network itself are inextricably intertwined. This geographic fixity has made 911 service and wiretapping possible on telephone networks.

## B. E911

There are many potential technologies, including location-aware services, that could benefit society enormously but may never come into being because of the E911 Order. First, there are substantial technical standard-setting activities underway that may be truncated because of the FCC's approach.<sup>83</sup> Second, starting in 2003, the National Emergency Number Association (NENA), which coordinates Public Safety Answering Point (PSAP) call centers used for 911 services described in the following section, began working with online VoIP companies to develop more innovative solutions for E911 services.<sup>84</sup> A Voice on the Net (VON)/NENA 911 working group was established in 2004 to implement the NENA efforts. And several VoIP providers began deploying interim 911 services—something that took wireless carriers sixteen years to do.<sup>85</sup> The VON/NENA efforts resulted in plans to roll out an IP-based E911 service offering which would deliver location information and callback numbers to PSAPs automatically in real time via the internet (rather than connecting through the traditional telephone system). As of February 2005, the plan was for these services to include enhanced digital capabilities:

By upgrading to Internet Protocol (IP) based equipment, 9-1-1 calls could be accompanied by much more information, such as a callers' medical records, medical status, language preference, or maps of commercial buildings. With today's system, there is no way for end users to automatically inform emergency technicians that someone has Alzheimer's, or for a PSAP to receive photo or

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83. The Internet Engineering Task Force (IETF) is working on modifications to the Dynamic Host Control Protocol to allow a device to be assigned location information by a network when the device first connects to that network. *See generally* J. Polk et al., *Dynamic Host Configuration Protocol Option for Coordinate-based Location Configuration Information* (IETF, RFC 3825, July 2004), <http://www.ietf.org/rfc/rfc3825.txt>. There are proposals for voluntarily-provided emergency services based on instant messaging and other IP-based services. *See generally* H. Schulzrinne, *Emergency Services URI for the Session Initiation Protocol* (IETF, draft-ietf-sipping-sos-00, Feb. 2004), <http://www.ietf.org/proceedings/04aug/I-D/draft-ietf-sipping-sos-00.txt>.

84. Voice on the Net Coalition, *Answering the Call for 9-1-1 Emergency Services in an Internet World* (Jan. 12, 2005), at 1, [http://www.von.org/usr\\_files/911%20VON%20White%20Paper%201-12-05%20final.pdf](http://www.von.org/usr_files/911%20VON%20White%20Paper%201-12-05%20final.pdf) (discussing the December 2003 National Emergency Number Association agreement with 8 X 8, AT&T Consumer Services, Broadsoft, Dialpad, ITXC (now TeleGlobe), Level 3, PointOne, Pulver.com, Vonage, and Webley).

85. *Id.*

video images. In the future, VoIP 9-1-1 calls may be able to support not only voice but a variety of data and video features/functions.<sup>86</sup>

Several companies put aside work on more robust emergency response efforts to devote their resources to complying with the FCC's approach in the E911 Order.<sup>87</sup> And because the FCC E911 Order was implemented before the public safety community finalized what had become known as the NENA "I2" standard,<sup>88</sup> major providers (including Intrado) implemented versions of E911 services that comply with the E911 Order but are noncompliant with the I2 standard—thus creating a continuing patchwork of E911 services.<sup>89</sup>

Because the E911 Order requires all VoIP 911 calls to go through the selective router, it will not allow a 911 call to go through an Internet Protocol router to any call center. Therefore, the Order prevents any IP-based emergency network, together with the host of advances such a network can deliver, from coming into being. The FCC's June 2005 E911 Order cut off further development of these IP-based E911 services and sent companies scrambling to figure out how to connect with a legacy, centrally-switched, telephony-based 911 system. Commentators had suggested that VoIP should not be burdened with connecting to the legacy emergency system. For example, they noted that "[t]oday's emergency access network reflects the hierarchical nature of the incumbent local ex-

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86. *Id.* Former FCC Chairman Michael Powell applauded these efforts: The 9-1-1 system is vital in our country, but it has limited functionality. In most systems, it primarily identifies the location from which the call was made. But an Internet voice system can do more. It can make it easier to pinpoint the specific location of the caller in a large building. It might also hail your doctor, and send a Text or Instant Message alert to your spouse.

*Id.*

87. The Department of Commerce had encouraged the development of a post-9/11 reverse 911 emergency broadcast system, and the city of Herndon, Virginia had developed an Amber Alert system over Cisco VoIP phones. Rather than continuing with work on breakthrough advances like these, companies put aside these efforts to focus on compliance. E-mail from Jonathan Askin, General Counsel, pulver.com to author (Feb. 12, 2006, 12:24:00) (on file with author).

88. See generally *Interim VoIP Architecture for Enhanced 9-1-1 Services (I2)*, NENA (Dec. 6, 2005), [http://www.nena.org/9-1-1TechStandards/Standards\\_PDF/NENA\\_08-001\\_V1\\_12-06-05.pdf](http://www.nena.org/9-1-1TechStandards/Standards_PDF/NENA_08-001_V1_12-06-05.pdf).

89. E-mail from Jonathan Askin, General Counsel, pulver.com to author (Feb. 12, 2006, 12:24:00) (on file with author).

change network,”<sup>90</sup> and pointed the Commission to consider the enhanced capabilities that IP-based emergency services communications could include. But the Commission ignored all of this and plunged forward (or backward) to tie emergency services to the existing legacy infrastructure.<sup>91</sup> These requirements may drive many new VoIP entrants out of business.

### 1. Background

In April 2003, a Colorado mother watched her infant son die while she was switched from one 911 dispatcher to another.<sup>92</sup> She blamed Comcast, her digital phone provider, for failing to record her address accurately.<sup>93</sup> In early 2005, a Houston teenager’s parents were shot during a robbery.<sup>94</sup> The teenager used a Vonage VoIP phone to call 911 and allegedly had trouble reaching a 911 dispatcher.<sup>95</sup> Similarly, in March 2005 a mother in Deltona, Florida used her Vonage phone to dial 911 when her daughter stopped breathing, but was unable to get through.<sup>96</sup> Her daughter subsequently died. The Attorneys General of three states—Texas, Michigan, and Connecticut—all separately sued Vonage, claiming that users had been deceived as to Vonage’s 911 capabilities.<sup>97</sup>

Vonage called itself “The Broadband Phone Company,” but it apparently was not providing adequate 911 connectivity. At an open FCC meet-

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90. Comments of Level 3 Communications, *In re IP-Enabled Servs.*, WC No. 04-36, Petition for Forbearance, No. 03-266, at 37 (filed May 28, 2004), available at [http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516199232](http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516199232).

91. See, e.g., DALE N. HATFIELD, A REPORT ON TECHNICAL AND OPERATIONAL ISSUES IMPACTING THE PROVISION OF WIRELESS ENHANCED 911 SERVICES 41 (2002), available at [http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6513296239](http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513296239). An IP-enabled emergency service system would enable “a caller to send a picture of a vehicle involved in a hit-and-run accident along with a voice message.” *Id.* IP-enabled emergency services would also allow deaf users to contact others.

92. Chris Vanderveen, *Mom Blames Phone Company Mix-Up for Death of Son*, 9NEWS.COM, Sept. 30, 2004, [http://9news.com/acm\\_news.aspx?OSGNAME=KUSA&IKOBJECTID=4c3beadf-0abe-421a-0057-38432f27e620&TEMPLATEID=0c76dce6-ac1f-02d8-0047-c589c01ca7bf](http://9news.com/acm_news.aspx?OSGNAME=KUSA&IKOBJECTID=4c3beadf-0abe-421a-0057-38432f27e620&TEMPLATEID=0c76dce6-ac1f-02d8-0047-c589c01ca7bf).

93. *Id.*

94. Ben Charny, *Deadly Delay on Vonage 911?*, CNET NEWS.COM, May 9, 2005, [http://news.com.com/Deadly+delay+on+Vonage+911/2100-1037\\_3-5700493.html](http://news.com.com/Deadly+delay+on+Vonage+911/2100-1037_3-5700493.html).

95. *Id.*

96. See *id.*

97. Eric Hellweg, *VoIP’s Call for Help*, TECH. REV., Mar. 25, 2005, at 1, available at [http://www.technologyreview.com/articles/05/03/wo/wo\\_hellweg032505.asp](http://www.technologyreview.com/articles/05/03/wo/wo_hellweg032505.asp) (addressing VoIP issues in Texas); Ted Stevenson, *State To Target Vonage 911 Services*, INTERNETNEWS.COM, May 2, 2005, <http://www.internetnews.com/infra/article.php/3501991> (addressing VoIP issues in Michigan); Preston Gralla, *Connecticut Sues Vonage Over Emergency 911*, NETWORKINGPIPELINE.COM, May 5, 2005, at 1, available at <http://www.networkingpipeline.com/voicedata/162600024> (addressing VoIP issues in Connecticut).

ing on May 19, 2005, people involved in these Vonage incidents—including Cheryl Waller of Florida, the mother of the baby girl who died—testified to the effect that their expectation had been that they would be able to reach 911 operators just as with an “ordinary” phone. Waller’s story in particular was extraordinarily troubling:

In a hushed hearing room at the FCC headquarters last May, Cheryl Waller choked back tears as she recounted the death of her three-month-old daughter. At 6:35 p.m. on Mar. 24, the baby stopped breathing. The frantic mother dialed 911 several times but got only a voice recording. Finally, a neighbor reached a 911 operator—but by the time medics arrived, it was too late. The infant was pronounced dead at 6:51 p.m.

Waller . . . urged the Federal Communications Commission to pass Chairman Kevin J. Martin’s proposal to require Internet carriers to tighten up their emergency services within 120 days—“seven days longer than my daughter lived,” said Waller, dissolving into tears.<sup>98</sup>

It seemed so easy: why *not* require the “The Broadband Phone Company” and other VoIP providers to make 911 service available to their subscribers, particularly when people could die if such service was not available? On the same day that Waller appeared before them, the FCC Commissioners voted 4-0 to adopt the E911 Order.<sup>99</sup>

Given the differences between the way that traditional telephone networks work and the way the internet works, the E911 Order was a very dramatic piece of administrative activity. Briefly,<sup>100</sup> landline (traditional, non-wireless telephone) 911 works in this country because we have established a network of six thousand Public Safety Answering Points (PSAPs),<sup>101</sup> whose staffs field 911 calls. Specialized routing within the telephone network, using centrally-programmed switches, ensures that a 911 call goes to the right PSAP.<sup>102</sup> But, in the beginning, basic landline 911 calls did not arrive accompanied by location information or a callback

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98. Catherine Yang, *Storm Warnings for Kevin Martin; The New FCC Chairman is About To Confront Issues that Divide Business*, BUS. WK., Oct. 31, 2005, at 59.

99. See Press Release, FCC, Commission Requires Interconnected VoIP Providers To Provide Enhanced 911 Service: Order Ensures VoIP Customers Have Access to Emergency Services (May 19, 2005), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-258818A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-258818A1.pdf).

100. See HATFIELD, *supra* note 91, for the description of 911 impossibilities that follows.

101. *Id.* at 3-5; E911 order, *supra* note 1, at 10,251 n.14.

102. HATFIELD, *supra* note 91, at 3-5.



number.<sup>103</sup> This meant that the PSAP operator had no way to call the complaining person back or send an ambulance to the right destination unless the caller was able to describe her whereabouts and provide a number—something many people in an emergency are unable to do.<sup>104</sup>

Using signals that automatically made analog queries to a billing database, PSAPs and local telephone companies were able to obtain the calling number.<sup>105</sup> (This is what software developers would call a “kludge,” or inelegant work-around allowing a desired result.) A separate kludge was set up to allow PSAP equipment to automatically query an Automatic Location Identification (ALI) database over a separate data circuit, separate from the call itself, providing the ALI with the in-calling phone number.<sup>106</sup> The ALI then returned location information to the PSAP.

In time, local telephone companies were able to program selective routers—hardware—to query these databases and provide both a callback number and location information to a PSAP at the same time that the 911 call was coming in.<sup>107</sup> Thus enhanced 911—or E911, 911 that includes location information and a call-back number—came into being thirty years ago, based not on digital signaling but on centralized router programming by phone companies. This was possible for telephone companies that had knowledge of the subscriber’s location for billing purposes; indeed, this 1970s E911 system was dependent on using numbers that closely tied to both subscriber location and existing physical network switches.

Wireless carriers do not have selective routers of their own. They need the permission and active cooperation of the carriers who control these selective routers to connect to them. Without these connections the wireless industry cannot provide accurate information to existing PSAPs. For this reason, the FCC and the wireless industry have been working since 1993 on wireless E911 arrangements, with countless extension and waiver requests being filed by the wireless companies.<sup>108</sup> The details of these negotiations are beyond the scope of this Article. But the bottom line is that given the kludges and legacy systems in place for landline PSAPs, as well as the absence of incentives for landline telephone companies to allow wireless companies to interconnect with their selective routers, it has

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103. *Id.*

104. *Id.*

105. *Id.* at 3-4.

106. *Id.* at 4.

107. *Id.* at 4-5.

108. See Kelly Carroll, *One Fine E911 Mess*, TELEPHONYONLINE, Aug. 20, 2001, [http://telephonyonline.com/mag/telecom\\_one\\_fine\\_mess/index.html](http://telephonyonline.com/mag/telecom_one_fine_mess/index.html) (noting delays and extension requests).

proven extremely difficult to implement E911 services for wireless subscribers. Because 911 continues to be based on a 1970s legacy system, it has taken more than ten years for nomadic cell phones to have reliable 911 access.<sup>109</sup> Cell phone operators use tower location and triangulation to make location information available for 911 purposes—information that is not available to mobile VoIP providers.

Despite the history of slow and difficult implementation of 911 on the wireless side, FCC Chairman Kevin J. Martin must have felt he had to act quickly to address the searing press coverage of deaths caused, arguably, by inadequate VoIP 911 service. On May 19, 2005, after Cheryl Waller gave her testimony about the death of her daughter and the Commission adopted the E911 Order, Chairman Martin said: “Today’s action seeks to remedy a very serious problem—one quite literally of life or death for the millions of customers that subscribe to VoIP service as a substitute for traditional phone service.”<sup>110</sup>

In the E911 Order, the Commission mandated that “interconnected VoIP” providers be able to route all 911 calls, accompanied by a call-back number and the caller’s location, through the traditional telephone 911 network to appropriate local emergency authorities by November 28, 2005.<sup>111</sup> The Commission defined “interconnected VoIP” as those services that (1) allowed for “real-time, two-way”<sup>112</sup> voice communications, (2) required a broadband connection, (3) required end-user equipment to process and receive Internet Protocol packets, and (4) allowed users to *both* receive calls from traditional telephone networks *and* make calls to telephone numbers.<sup>113</sup> Thus, a free online voice service that made it possible for users to “call” traditional telephone numbers and receive calls from the network must find ways to get location and callback information to a local emergency center through a centrally-located and customized piece

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109. According to the CEO of Nuvio, a VoIP provider, “The cellular industry has been grappling with these [E911 implementation issues] for a dozen years.” Jon Van, *Internet Phone Service Provider Files Suit, Seeks Clarity from FCC*, CHI. TRIB., Aug. 16, 2005.

110. E911 Order, *supra* note 1, at 10,328 (statement of Kevin Martin, FCC Chairman).

111. *See id.* at 10,328 (requiring implementation of E911 requirements within 120 days).

112. *Id.* at 10,254 n.58.

113. *Id.* at 10,257-58; Catherine Yang, *Storm Warnings for Kevin Martin: The New FCC Chairman is About To Confront Issues that Divide Business*, BUS. WK., Oct. 31, 2005, at 41.

of hardware—the selective router—controlled, for the most part, by Intrado.<sup>114</sup>

Interconnected VoIP providers were also directed to find ways to obtain updated information as to the physical locations of their subscribers. They were told that they had to instruct their customers immediately and obtain affirmative acknowledgements from subscribers that they had received these instructions as to the extent of 911 service provided to them.<sup>115</sup> Providers of these interconnected VoIP services were ordered to find ways to make 911 services available to their subscribers, and told that connecting to the existing 911 legacy structure was a condition of being permitted to provide services at all.<sup>116</sup> The Commission noted that third-party providers of outsourced services (including, prominently, Intrado) were available to assist interconnected VoIP providers with connections to the traditional telephone 911 system because these providers had been certified as telecommunications carriers.<sup>117</sup> The Commission also said it would not shield interconnected VoIP providers from liability under state laws for mistakes occurring in connection with provision of emergency services.<sup>118</sup> Telephony providers, both wired and wireless, do have such liability protections by statute.<sup>119</sup>

## 2. *Implementation Difficulties*

Making E911 services available to consumers within four months was impossible to do for most VoIP companies.<sup>120</sup> The existing 911 infrastruc-

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114. As the Commission notes, 911 systems “usually are based on a 25-year-old architecture and implemented with legacy components that place significant limitations on the functions that can be performed over the network.” E911 Order, *supra* note 1, at 10,252.

115. *Id.* at 10,334.

116. *Id.* at 10,272 (“Thus, interconnected VoIP providers must, as a condition of providing that service to a consumer, provide that consumer with E911 service as outlined in [this Order].”)

117. *See id.* at 10,256-57. The Baby Bells are required to provide access to 911 databases and interconnection to 911 facilities to all telecommunications carriers, pursuant to the Telecommunications Act, 47 U.S.C. §§ 251(a), 251(c), 271(c)(2)(B)(vii) (2000).

118. E911 Order, *supra* note 1, at ¶ 54.

119. *See, e.g.,* Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, § 4(a), 113 Stat. 1286, 1288 (1999) (providing wireless carriers, and their officers, directors, employees, vendors and agents the same immunity or protection from liability as local exchange companies enjoy in the same jurisdiction). Both liability protection and mandated access to selective routers are being addressed by draft bills now pending in Congress. *See* COMMS. DAILY, 2005 WLNR 17729142 (Nov. 3, 2005).

120. *See* Charlotte Wolter, *FCC's Deadline To Make VoIP Services E-911 Capable Will Be Difficult To Meet*, WARREN'S WASH. INTERNET DAILY, June 9, 2005; Charlotte

ture in the U.S. is extremely antiquated, to the point where even wireless companies have had great difficulty implementing 911. The E911 Order gives interconnected VoIP providers no new rights that will help them comply, and does not obligate local telephone companies to allow them to connect to the essential selective routers owned by these telephone companies.<sup>121</sup> Thus, VoIP service providers have no right to access selective routers, and have to wait for the Baby Bells to slowly give them permission to connect. The E911 Order did not set rates or otherwise control what the essential facility provider—the incumbent local telephone company—could do to hold up a VoIP provider seeking access to the special emergency communications equipment whose use the E911 Order mandated.<sup>122</sup>

The complexities of nomadic VoIP services—usable from any net connection anywhere in the world, using any area code, over any form of transport—make connection to the legacy E911 system difficult. Thus, online voice providers will need to persuade the Baby Bells to give them access to the necessary facilities through intermediaries at a sensible cost, and load up routers and databases with the right information, without any protection from liability if they make mistakes. Compliance may be suffi-

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Wolter, *Vonage CEO Citron: No One Can Meet FCC 911 Deadline*, NEW TELEPHONY, June 14, 2005, <http://www.newtelephony.com/news/56h1485125.html>.

121. See *FCC Adopts Order Expanding E911 Regulation To Include Some VOIP Service Providers*, TECH L. J., May 19, 2005, <http://www.techlawjournal.com/alert/2005/05/20.asp>.

122. Vonage, in particular, bitterly complained to the FCC that although BellSouth and SBC were giving the appearance of cooperating in granting access to their selective routers to Vonage, they were in fact making such connection difficult. See, e.g., Letter from Jeffrey Citron, Vonage Chief Executive Officer, to Bill Smith, BellSouth Chief Tech. Officer, *In re IP-Enabled Servs.*, WC No. 04-36, at 2 (Fed. Commc'ns Comm'n May 9, 2005) ("I write to seek your clarification that BellSouth will make available all elements necessary to allow Vonage and BellSouth to implement a solution that will allow for the extending the benefits of E911 to nomadic VoIP consumers."), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517601367](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517601367); Letter from William B. Wilhelm, Jr., Counsel, Vonage, to Marlene H. Dortch, Sec'y, FCC, *In re IP-Enabled Servs.*, WC No. 04-36, at 2 (May 10, 2005) (attaching April 27, 2005 letter from SBC and stating that "[C]ontrary to the public pronouncements of several RBOCs, many of the proposed solutions are limited to delivery of 911 to fixed location end users with geographically valid telephone numbers."), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517601482](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517601482); Letter from William B. Wilhelm, Jr., Counsel, Vonage, to Marlene H. Dortch, Sec'y, FCC, *In re IP-Enabled Servs.*, WC No. 04-36, at 1-2 (May 13, 2005) ("SBC's recently announced VoIP 'solution' is inadequate and does not fully support nomadic VoIP providers. . . . Vonage often has difficulty provisioning selective router trunking because of limitations in carrier interconnection agreements."), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517605052](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517605052).

ciently expensive to make it no longer worthwhile for some VoIP providers to stay in business.<sup>123</sup>

In the E911 Order, the FCC firmly told providers of interconnected VoIP services that if they did not comply with the Order by November 28, 2005, they would be forced to stop offering services to customers.<sup>124</sup> In October 2005, Nuvio (a VoIP company) moved for a stay of the E911 Order's requirements.<sup>125</sup> Then, in November 2005, prompted by Nuvio's and other industry complaints, the FCC backed down.<sup>126</sup> VoIP providers were told that if they did not comply with the E911 Order as of November 28, 2005, the Commission would "expect that such providers will discontinue marketing VoIP service, and accepting new customers for their service" in areas where E911 services were not available.<sup>127</sup> The Commission "strongly encourage[d]" VoIP providers to adopt the E911 compliance plans that had been filed by AT&T and Verizon when they merged with SBC and MCI, respectively. The AT&T and Verizon plans had been exacted by the Commission as a condition of the mergers, including commitments not to accept new customers in areas where E911 service was not available.<sup>128</sup> The clear implication to be drawn from this "strong en-

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123. Indeed, pulver.com has "chosen not to offer a PSTN-connected VoIP service in the U.S. because of the FCC's backward-looking, anti-innovative rules on E-911 and CALEA." E-mail from Jonathan Askin, General Counsel, pulver.com to author (Dec. 20, 2005, 16:02:43) (on file with author).

124. See 47 C.F.R. § 9.5(b) (2006).

125. See Motion for Partial Stay, *In re* IP-enabled Servs. and E911 Requirements for IP-Enabled Service Providers, WC Nos. 04-36, 05-196, at 5-9 (Oct. 24, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518174062](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518174062).

126. Press Release, VON Coalition, VoIP Providers Announce Significant Progress on E911 (Nov. 11, 2005), at 3, available at [http://www.von.org/usr\\_files/911%20-%20Survey%202005%20final.pdf](http://www.von.org/usr_files/911%20-%20Survey%202005%20final.pdf) (reporting that nearly half of independent VoIP providers surveyed said they would have to cut off customers because they could not meet the Commission's November 28th deadline).

127. Public Notice, Enforcement Bureau Outlines Requirements of November 28, 2005 Interconnected Voice Over Internet Protocol 911 Compliance Letters, WC Nos. 04-36, 05-196, at 4 (Nov. 7, 2005), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-05-2945A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-2945A1.pdf).

128. Public Notice, Enforcement Bureau Provides Guidance to Interconnected Voice Over Internet Protocol Service Providers Concerning the July 29, 2005 Subscriber Notification Deadlines, WC Nos. 04-36, 05-196, at 2 (Nov. 7, 2005), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-05-2085A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-2085A1.pdf). The Verizon and AT&T plans included a wildly kludge-y way of updating consumer location information:

By November 28, Verizon expects to have a capability to detect when a customer's VoiceWing telephone adapter is disconnected from the network. If we detect that the customer's adapter has been disconnected, we will suspend the customer's service, with the exception of

couragement” was that VoIP providers who did not file equivalent compliance plans by November 28, 2005 would be viewed as being candidates for enforcement actions. Wireline and wireless providers have never been required to obtain acknowledgements from their subscribers of the limitations of their 911 services, to disconnect subscribers because of these limitations, or to limit their marketing efforts—even though it has taken wireless providers more than a decade to get E911 services working.

Most VoIP providers missed the November 28 deadline<sup>129</sup> and some, including Vonage, continued to market services to customers even though E911 service was not available.<sup>130</sup>

The nature of VoIP services makes it difficult for VoIP providers to comply. Let us say you are sitting in London using a U.S. online voice

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911 calls and calls to customer service. At the same time, we will send the customer an e-mail and post a message to the customer’s Personal Account Manager asking the customer to confirm his or her existing Registered Location, or register a new location.

While in suspend status, if the customer attempts to make any calls, other than 911 calls or calls to customer service, before he or she confirms or registers a new location, Verizon will intercept the call and play an announcement that will inform the customer of the service suspension and transfer the customer to a customer service representative for assistance. If the customer confirms to the service representative that the customer’s Registered Location has not changed, full service will be restored by Verizon. If the customer indicates that he or she has moved from the existing Registered Location, service will remain suspended unless and until the customer registers a new address in an area where Verizon can provide 911 service. If the customer fails to choose either option (for example by hanging up), service will remain suspended . . . As a result, the customer will be required to register a new address when the service is used nomadically.

Ex Parte letter of Verizon, WC Nos. 04-36, 05-196, at 2-3 (Fed. Commc’ns Comm’n Oct. 21, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518171541](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518171541) (citations omitted).

129. Geoff Duncan, *VOIP Providers Largely Miss E911 Deadline*, DESIGNTECHNICA.COM, Nov. 30, 2005, <http://news.designtechnica.com/article8935.html>.

130. Roy Mark, *Vonage Markets On Despite FCC E911 Order*, INTERNETNEWS.COM, Nov. 29, 2005, <http://www.internetnews.com/bus-news/print.php/3567211>. Vonage sought a waiver of the FCC rule, stating that it had been able to extend E911 service to only 26% of its subscribers. *Id.* More than a dozen other VoIP companies also sought waivers. It is difficult for VoIP providers to limit who sees their online advertisements. Additionally, this marketing requirement seems to plunge the FCC deeply into advertising regulation—territory thought to be within the purview of the Federal Trade Commission. *See, e.g.*, ONLINE PROFILING: BENEFITS AND CONCERNS, 105th Cong. 297 (2000) (statement of Jodie Bernstein, Dir. of the Bureau of Consumer Prot., FTC). If the FTC does get involved, it might require bold letter warnings: “You are not buying a telephone service. If you want telephone services, go somewhere else.”

service with a Rhode Island number, and you are speaking to a friend in Singapore. Let us assume you get into some kind of trouble. How is the online voice application supposed to know who to tell, and what to tell them to do? The answer, for the moment, is that the online voice application is supposed to make arrangements through local phone companies and with all selective routers, which are in turn connected to their relevant PSAPs, to provide databases of location information and callback numbers. This location information is then supposed to be provided and updated by the subscriber, even if the subscriber is going ninety miles per hour down a Montana freeway.<sup>131</sup>

And what exactly is a “VoIP provider”? The internet is indifferent to the nature of the applications that it carries. In turn, to each application one bit looks just like another.<sup>132</sup> So, for example, instant messaging (IM) platforms that include many straight data tools—text, maps, collective picture drawing, file sharing—can also easily include voice applications which are also straight data tools.<sup>133</sup> The instant messaging user can talk to

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131. The FCC appears to be planning to require any VoIP-capable device (including PCs) to be able by June 2006 to *automatically* declare its location. In the E911 Order, the Commission asks whether it should “require all terminal adapters or other equipment used in the provision of interconnected VoIP service sold as of June 1, 2006 to be capable of providing location information automatically, whether embedded in other equipment or sold to customers as a separate device?” E911 Order, *supra* note 1, at 10,277. This suggestion that eventually all VoIP-capable applications and devices (including PCs) should be automatically reporting their precise locations should raise substantial privacy concerns and worries about technical mandates. *See infra* Part V.

132. As used in this Article, the term “bits” refers to machine-readable representations of information. “Bit” is shorthand for “binary digit,” the smallest unit of information on a machine. Bit, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Bit> (last visited Mar. 10, 2006). A single bit can exemplify only one of two values: 0 or 1. *Id.*

133. *See* Elena Malykhina, *AOL, Microsoft’s MSN, and Yahoo are Adding VoIP Capabilities to Their Popular IM Software, Giving More Credence to the Burgeoning Technology*, INFORMATIONWEEK, May 16, 2005, available at <http://www.informationweek.com/story/showArticle.jhtml?articleID=163101889>.

Spending by U.S. companies and public-sector organizations on voice-over-IP systems will grow to \$903 million this year, up from \$686 million in 2004, according to research firm Gartner. Investment in hybrid systems, which handle VoIP and conventional calls, will grow from \$1.5 billion to \$2 billion. By 2007, Gartner predicts, 97% of new phone systems installed in North America will be VoIP or hybrids.

These statistics aren’t lost on the major internet companies. America Online, Microsoft’s MSN division, and Yahoo are all entering the VoIP market, armed with services and capabilities that they’ve added to their popular instant-messaging software.

others to her heart's content. Are IM providers "VoIP providers"? At the moment, the answer from the FCC is "not necessarily," because most of these applications do not make it possible to both send data to particular phone numbers and receive data "at" a particular phone number (and thus are not interconnected VoIP providers).<sup>134</sup> But in time more of these applications may have this capability, or the FCC may broaden the scope of its rule to include them.<sup>135</sup> The FCC is already signaling that its definition of "interconnected VoIP" will broaden to include VoIP applications that are "capable of" connection to traditional telephone networks.<sup>136</sup>

More fundamentally, there is no magic distinction between "voice" data and any other kind of data. Voice, when digitized, looks and acts just like any other data stream. From an internet point of view, the E911 mandate has no principled limits and could apply to any application that is capable of connection to any public network. Although making nomadic VoIP services, much less any other data application, connect to legacy E911 hardware seems strange from an internet perspective, it fits perfectly with the mindset of people who have grown up in the telephone world.

A darker, less public-service-oriented part of the telephony mindset is bent on squashing competitive services. Alexander Bell's own success was made possible by a strong patent and investors who were willing to fund what must have seemed like an endless flow of litigation.<sup>137</sup> In the absence of an unassailable patent, today's telephony providers have had to find another approach to the enormous online voice marketplace. There is at least the possibility that the E911 order is an unprincipled or political move,

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*Id.* Yahoo! Messenger is already providing voice services to millions of people. *See* Yahoo Messenger, <http://messenger.yahoo.com> (last visited Mar. 10, 2006).

134. *See* E911 Order, *supra* note 1 (stating FCC's definition of "interconnected VoIP").

135. The FCC is planning to promptly reconsider the scope of the application of E911 requirements. *See id.* at 10,277. Most observers agree that there is no principled line to be drawn between one kind of VoIP and other services that also offer voice affordances, and that it will be very difficult to limit expansions of this mandate. *See, e.g.*, Educause, School and Library Networks Threatened by Proposed CALEA Expansion, <http://educause.edu/ir/library/pdf/EPO0415.pdf> (explaining that the FCC's analysis makes all information services, including instant messaging and e-mail, vulnerable to the future imposition of CALEA obligations). This means that Skype, an extraordinarily popular online voice service that has been downloaded by more than 100 million people will likely soon be subject to E911 obligations. *See generally* James E. Gaskin, *What Is Skype*, O'REILLY NETWORK, Aug. 4, 2005, <http://www.oreillynet.com/pub/a/network/2005/08/04/whatisSkype.html>.

136. CALEA Order, *supra* note 2, ¶ 39.

137. *See* Mike Gorman: Bell's Path to the Telephone, <http://www3.iath.virginia.edu/albell/homepage.html> (last visited Apr. 15, 2006).



designed to protect the incumbents' ability to control the market for online voice services. The next section delineates the background for this view.

### 3. *The Capture Story*

At a November 2005 telecommunications conference in Washington, D.C., Stagg Newman, a Senior Telecommunications Practice Expert with McKinsey & Co., a management consulting firm, and a former Chief Technologist at the FCC, said that he had heard that a single company wrote the E911 rule.<sup>138</sup> He refused to elaborate on his remarks.

Even without Mr. Newman's last word on the subject, one can see the influence of third party compliance providers in cooperation with incumbent telephony companies in the E911 rule. Third party vendors met early and often with staff and Commissioners, and filed numerous comments.<sup>139</sup> Intrado, the vendor that runs 80% of the selective router and E911 infrastructure in this country, met with staff to give presentations or filed comments sixteen times between April 2004 and December 2005.<sup>140</sup> Both Intrado and Level 3 patiently explained to staff how the E911 system functioned and how the FCC should frame its Order.<sup>141</sup> The FCC's June 2005

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138. Stagg Newman, Statement at pulver.com Peripheral Visionaries' IP-Based Communications Policy Summit (Nov. 10, 2005) (notes on file with author).

139. See generally Letter from Susanne A. Guyer, Senior Vice President of Fed. Regulatory Affairs, Verizon, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 21, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518171541](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518171541).

140. Listing of Intrado Comments to FCC, [http://gullfoss2.fcc.gov/prod/ecfs/comsrch\\_v2.cgi](http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi) (in Field 4, type "intrado," then in Field 3, select "co," then retrieve document list).

141. According to Jonathan Askin of pulver.com, the FCC had considerable help in the technical parts of the Order from the firms that supply the systems used for E911 by telephone companies. E-mail from Jonathan Askin, General Counsel, pulver.com, to the author (Dec. 22, 2005, 11:07:00) (on file with author). Even without this secondhand report, the ex parte filings made by Intrado and Level 3, which included many Power-Point presentations and indications of telephonic and other contacts, tell a skeletal story of influence. Many of these filings are written too summarily to be helpful, however. For example, days before the E911 Order was adopted, Intrado representatives spoke to FCC staff. Here is the full report of that call in the ex parte filing made by Intrado:

On May 3, 2005, Stephen Meer, Chief Technology Officer of Intrado Inc. ("Intrado"), spoke telephonically with Julie Veach, Christi Shewman and Nicholas Alexander of the Wireline Competition Bureau to discuss 9-1-1 service provisioning for Voice Over Internet Protocol, specifically relating to New York City. Additional items discussed included ownership of telephone number blocks and 9-1-1 data management scenarios.

Letter from Mary Boyd, Vice President of Gov't & External Affairs, Intrado, to Marlene H. Dortch, Sec'y, FCC, *In re* IP-Enabled Servs., WC No. 04-36, at 1 (May 5, 2005),

E911 Order cites Intrado's filings more than twenty times, and mentions that VoIP providers can use Intrado's services to connect to the dedicated hardware that serves as the gateway to the telephone companies' emergency services system.<sup>142</sup> Intrado's stock price jumped substantially during the summer of 2005.<sup>143</sup> With the Baby Bells and the largest non-Bell VoIP provider as its customers, and with its almost complete control over access to the required gateway to the E911 system, Intrado had every incentive to help the FCC shape the E911 rules.

Level 3, unlike Intrado, argued actively in the E911 proceeding that the Commission should take a flexible approach to E911 compliance standards for VoIP providers. For example, Level 3 noted that "VoIP's flexibility and the growth in broadband access will lead to ever-increasing use of nomadic or mobile VoIP with added features and functionalities not available on traditional phones . . . ." <sup>144</sup> Although the Commission declined to take this flexible route, it was no doubt comforted by Level 3's ability to make compliance by VoIP providers easier, as it stated in the Order that interconnected VoIP providers could comply with the Commission's mandate in most of the households in the country by buying Level

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available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517596672](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517596672). A July 2005 call, held after the E911 Order was finalized, was reported as follows:

In this meeting, Intrado relayed its commitment to working with all parties to assist in meeting the Commission's rules regarding VoIP and E911. Intrado also discussed issues related to implementation with the Commission and highlighted the cooperative efforts involved in the deployment of VoIP E911 services in New York City.

Letter from Mary Boyd, Vice President of Gov't & External Affairs, Intrado, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196, at 1 (Jul. 21, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518012587](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518012587)

142. E911 Order, *supra* note 1, at 10,267-68.

143. Intrado's stock was flat at \$12 per share from 1998, when it went public, until June 2005. See Intrado, Inc., HOOVERS, <http://www.hoovers.com/free/co/fin/stockquote.xhtml?COID=56660&ticker=TRDO> (last visited Dec. 21, 2005). In June 2005—after the E911 Order was announced, but before the Order was released—its stock price went up to \$15; as of December 21, 2005, Intrado's stock price was \$22.69. See *id.* (tracking Intrado stock price changes); Gene Marcial, *The Lines Ring Off the Hook at Intrado*, BUS. WK., Aug. 1, 2005, available at [http://www.businessweek.com/magazine/content/05\\_31/b3945127\\_mz027.htm](http://www.businessweek.com/magazine/content/05_31/b3945127_mz027.htm).

144. Reply Comments of Level 3, *In re* IP-Enabled Servs. & E911 Requirements for IP-Enabled Serv. Providers, WC Nos. 04-36, 05-196, at 3 (Fed. Comm'n's Comm'n Sept. 12, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518157216](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518157216).

3's wholesale E911 services.<sup>145</sup> Level 3 pushed the Commission to require E911 services of VoIP providers, at least for those services that competed with traditional telephone services and for which consumers had an expectation of such access.<sup>146</sup>

The incumbent telephone companies underscored the availability of these third-party 911 solutions in their own presentations,<sup>147</sup> while emphasizing their own abilities to provide E911 services to their VoIP subscribers.<sup>148</sup> Meanwhile, both third-party service providers and public safety officials noted that VoIP operators were not paying for emergency call centers via user fees, but that third-party solution providers were making such contributions.<sup>149</sup> All of this must have satisfied the Commission that compliance with the E911 mandate made sense for VoIP providers, given that

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145. E911 Order, *supra* note 1, at 10,267-68 (citing Level 3's fact sheet, E-911: Enhanced 911 for VoIP, *supra* note 54). Level 3 met with the Commission or filed comments more than forty times in the E911 proceeding, and the Commission referred to Level 3 fifteen times in the E911 Order. See Listing of Level 3 Comments to FCC, [http://gullfoss2.fcc.gov/prod/ecfs/comsrch\\_v2.cgi](http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi) (in Field 4, type "level 3", then in Field 3, select "co," then retrieve document list).

146. Comments of Level 3, *In re* IP-Enabled Servs. & E911 Requirements for IP-Enabled Serv. Providers, WC Nos. 04-36, 05-196, at 3, 25 (Fed. Commc'ns Comm'n Sept. 12, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518157216](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518157216).

147. See, e.g., BELLSOUTH, E-9-1-1/VOIP INTEGRATION, WC Nos. 04-36, 05-196, at 4 (Fed. Commc'ns Comm'n May 12, 2005) ("BellSouth will provide database services via Intrado which includes edits, posting, and return of errors for resolution by the VoIP provider."), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517603049](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517603049); Verizon, Current VoIP 911, WC Nos. 04-36, 05-196, at 4 (Fed. Commc'ns Comm'n May 16, 2005) (showing "Intrado Gateway" to E911 system), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517602285](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517602285).

148. See *supra* note 148; Ex Parte Comments of SBC Commc'ns, Inc., *In re* IP-Enabled Servs. & E911 Requirements for IP-Enabled Serv. Providers, WC Nos. 04-36, 05-196, at 18 (Fed. Commc'ns Comm'n Aug. 15, 2005) ("Even before the Commission adopted the *VoIP 911 Order*, SBC and other ILECs were already offering a variety of 911 services directly to VoIP providers."), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518142908](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518142908).

149. Letter from Bruce A. White, Vice President & General Counsel, Telecomm. Sys., to Marlene H. Dortch, Sec'y, FCC, WC No. 04-36, at 23 (Apr. 22, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6517582385](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6517582385); Letter from Gregory S. Ballantine, President, APCO Int'l, to Kevin Martin, Chairman, FCC, WC No. 05-196, at 1 (Nov. 30, 2005) (noting that only those service providers paying state level emergency fees should be permitted to have access to the numbers needed for nomadic VoIP users to trigger emergency responses), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518184848](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518184848). TCS also noted in a later presentation that public safety officers reap almost \$1 per subscriber line in revenues, and are worried about that funding decreasing. *Id.*

so many third parties stood ready to assist them to reduce the complexities inherent in connecting one-by-one with all of the emergency call centers in the country.

Before permitting the 2005 mergers of SBC/AT&T and MCI/Verizon to close, the FCC apparently required that AT&T, MCI, and Verizon file nomadic VoIP E911 compliance plans.<sup>150</sup> Each of these plans stated that the entity would no longer market VoIP products to customers in areas in which E911 services were not available.<sup>151</sup> At least two of these plans, AT&T and Verizon, announced compliance solutions that relied entirely on Intrado-provided services. The FCC then applauded these plans and strongly urged other VoIP providers to follow their model.<sup>152</sup> The implicit bottom line: any non-Bell, non-Vonage independent VoIP provider would need to sign up with Intrado's services (whatever their cost), or another third-party's services, and stop marketing to customers who would not be able to receive E911 services.<sup>153</sup> The combination of the presence of In-

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150. See Letter from Robert W. Quinn, Jr., Vice President of Fed. Gov't Affairs, AT&T, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 7, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518167082](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518167082); Letter from Richard S. Whitt, Vice President of Fed. Regulatory Affairs, MCI, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 21, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518171530](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518171530); Letter from Susanne A. Guyer, Senior Vice President of Fed. Regulatory Affairs, Verizon, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 21, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518171541](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518171541).

151. The plans also uniformly stated that existing VoIP customers in areas not served by 911 would be "grandfathered," and that per-grandfathered-subscriber contributions would be made to local emergency services organizations—ranging up to \$1.00 per grandfathered subscriber per day. See Letter from Robert W. Quinn, Jr., Vice President of Fed. Gov't Affairs, AT&T, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 7, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518167082](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518167082); Letter from Richard S. Whitt, Vice President of Fed. Regulatory Affairs, MCI, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 21, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518171530](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518171530); Letter from Susanne A. Guyer, Senior Vice President of Fed. Regulatory Affairs, Verizon, to Marlene H. Dortch, Sec'y, FCC, WC Nos. 04-36, 05-196 (Oct. 21, 2005), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518171541](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518171541).

152. See Public Notice, Enforcement Bureau Provides Guidance to Interconnected Voice Over Internet Protocol Service Providers Concerning the July 29, 2005 Subscriber Notification Deadlines, *supra* note 128, at 1-2 n.5 (discussing the compliance plan that AT&T is implementing to address July 29, 2005 Subscriber Notification Deadlines for VoIPs).

153. The Commission's adjuration that VoIP firms stop marketing to customers (or accepting new customers) in all areas where they are not transmitting 911 calls to the

trado and Level 3, with their long customer lists and control over the selective routers, together with the desire of the Baby Bells to avoid competition from upstart independent VoIP providers, provided an irresistible impetus for the resulting FCC rule.

A further capture wrinkle makes the story even plainer: In a public session held at CompTel on December 14, 2005, FCC Chairman Martin told an audience of local telephone companies (non-Bell companies attempting to compete with the Baby Bells) that the E911 Order had created enormous market opportunities for them.<sup>154</sup> Why? Because, like Intrado, these local telephone companies can qualify as “telecommunications carriers.” VoIP providers, by contrast, are “information services.” Only “telecommunications carriers” can be certified to connect directly to the incumbents’ selective routers—the hardware that accesses the special legacy emergency system that VoIP providers are required to use according to the E911 Rule. Indeed, the incumbent Bell companies *must* by law provide interconnection to these companies. Martin suggested that this was a positive development for these companies:

“That [selling retail access to VoIP providers to selective routers] is probably a business opportunity for many of the carriers that are out there,” Martin said . . . “I have continued to believe that the competitive carriers are going to play an important role and many of our rules and regulations should be viewed as actually an opportunity for people.”<sup>155</sup>

This is a breathtaking statement. It strongly suggests that the FCC not only supported obligating VoIP providers to go through the legacy system—a solution that was bad enough in itself—but was also suggesting that VoIP providers work through middlemen.<sup>156</sup> And, to boot, the FCC

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appropriate PSAP in full compliance with the Commission’s rules is a very telephony-minded approach that raises fascinating questions. *See* Enforcement Bureau Outlines Requirements, *supra* note 127, at 4. Although telephone companies know who their customers are (because they run physical, centrally-controlled networks), online VoIP providers cannot limit who sees their online advertisements. VoIP providers could perhaps comply with this FCC marketing ban by placing disclaimers on their online advertisements (“this service may not be available in all areas”), but that suggestion raises yet another question: is the FCC becoming an advertisement regulator? Isn’t that advertising the terrain of the Federal Trade Commission? In effect, the FCC is mandating that VoIP providers post ads stating, “Buy our service. It may kill you.”

154. Drew Clark, *FCC Chief Tells VoIP Firms More Regulation is an Option*, NAT’L J.’S TECH. DAILY, Dec. 14, 2005.

155. *Id.*

156. Recall that the FCC did not require in the E911 Order that the Baby Bells open up their selective routers to VoIP companies. E911 Order, *supra* note 1, at 10,269 (ex-

supported the middleman-market as an “opportunity” for its familiar regulated entities, telephone companies.

If the Commission was captured along these lines, it was not necessarily acting corruptly. The widely-reported Vonage-related deaths in 2005 may have made the FCC’s telephony-minded staff feel a need to act quickly. Those who are steeped in telephony strongly believe that any communications service offered to the public must provide access to emergency officials and that technological developments must not be allowed to avoid this regulatory requirement. That dramatic May 2005 FCC meeting, marking the adoption of the E911 mandate, made this point clear.<sup>157</sup>

Given all the actors involved and the telephony mindset of staff, the stars were aligned in such a way that the Commission was emboldened to adopt what it itself termed an “aggressive” strategy.<sup>158</sup> Arguably, the Com-

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pressing no mandate for interconnection, but stating “[w]e expect and strongly encourage all parties involved to work together to develop and deploy VoIP E911 solutions”). During this same session, Chairman Martin rejected the notion that legislation was needed to require the Baby Bells to open connections to their selective routers to VoIP providers. Congress has been considering such legislation. *See* S. 1063, 109th Cong. (2005). Chairman Martin also implicitly rejected a plan, advanced by VoIP providers, for the appointment of an independent administrator to address the emergency number compatibility with nomadic VoIP providers. Clark, *supra* note 154. No such administrator was needed because Level 3 and other middlemen would provide interconnection services to the VoIP providers. *Id.*

157. During that meeting, one local emergency services employee said, passionately:

We should never allow an embedded base of technology subscribers and users to grow out of control before wrestling the technological and policy challenges to the ground. Any technology, any service offering, any entrepreneurial venture that would seek to gain acceptance from the public should always have 911 and access to emergency services as its first item on the checklist before products and services are delivered to the consumer.

FCC Open Meeting, May 19, 2005 (statement of John Melcher, Executive Director, Greater Harris County 9-1-1 Emergency Network). It is hard to imagine that all online services (including newspapers and banks) should come provisioned with E911 service, but the telephony mindset might lead in this direction. In introducing Mr. Melcher, Chairman Martin referred to the “invasion” of VoIP services. *Id.*

158. E911 Order, *supra* note 1, at 10,266-67 (“While 120 days is an aggressively short amount of time in which to comply with these requirements, the threat to public safety if we delay further is too great and demands near immediate action.”) In a recent paper, J. Scott Marcus expressed his amazement at the overbearing nature of the E911 VoIP edict, saying:

What is striking in the case of the emergency services order . . . is the degree to which it imposes harsh, lopsided, even Draconian regulation on new market entrants. . . . Given the VoIP industry’s active engage-

mission's E911 order was impossible to implement by independent VoIP providers and deeply favored the incumbent Baby Bells. The Order also represented a missed opportunity. The FCC had nipped in the bud the development of more flexible IP-based emergency response systems, which might have been extremely helpful to consumers.

### C. CALEA

As with the E911 story, the CALEA controversy and the FCC's adoption of the CALEA Order in August 2005 represents a wealth of missed opportunities, permission-culture regulatory heavy-handedness, and willful misreadings of statutory requirements. If law enforcement wants access to data, it can clearly get it without insisting that it be in pre-digested form.<sup>159</sup> Forcing data into forms that fit the era of telephony require forcing applications to collect recognizable data—which in turn will require those applications to be designed, in advance, to meet the needs of law enforcement.

#### 1. Background

The 1994 CALEA statute “requires telecommunications common carriers to ensure that new technologies and services do not hinder law enforcement access to the communications of a subscriber who is the subject of a court order authorizing electronic surveillance. . . .”<sup>160</sup> To this end, CALEA mandates the carriers to be able to “expeditiously isolat[e] and enabl[e] the government, pursuant to a court order or other lawful authorization, to access call-identifying information that is reasonably available to the carrier . . . .”<sup>161</sup> CALEA also requires that carriers deliver intercepted communications and call-identifying information to the govern-

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ment with the emergency services community, and their significant investment in customer education on this point, it is difficult to understand the rationale.

J. Scott Marcus, *Is the U.S. Dancing to a Different Drummer?*, 60 COMM. & STRATEGIES 39 (4th Quarter 2005) (discussing differences between U.S. and European telecommunications regulatory approaches), available at [http://www.idate.fr/fic/revue\\_telech/132/CS60%20MARCUS.pdf](http://www.idate.fr/fic/revue_telech/132/CS60%20MARCUS.pdf).

159. The traditionally cooperative nature of the relationship between telcos and law enforcement is well-known, and has recently become the subject of broad public scrutiny. See Scott Shane, *Attention in N.S.A. Debate Turns to Telecom Industry*, N.Y. TIMES, Feb. 10, 2006, at A11 (“Some [telecommunications] companies are said by current and former government officials to have provided the eavesdropping agency access to streams of telephone and Internet traffic entering and leaving the United States.”).

160. H.R. REP. NO. 103-827, at 16 (1994), reprinted in 1994 U.S.C.C.A.N. 3489, 3496.

161. Communications Assistance for Law Enforcement Act (CALEA), Pub. L. No. 103-414, § 103, 108 Stat. 4279, 4281 (1994).

ment “in a format such that they may be transmitted . . . by the government to a location other than the premises of the carrier.”<sup>162</sup>

CALEA was a heavily-negotiated statute that sought to make digital telephony service architecture tappable by law enforcement. The act authorized the federal government to pay \$500 million in industry costs incurred before 1995 to bring telephony facilities into compliance with law enforcement’s interception requirements.<sup>163</sup> But Congress wrote CALEA so as *not* to apply to “information services,” defined to be services “generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications,” including services “that permit[] a customer to retrieve stored information from, or file information for storage in, information storage facilities.”<sup>164</sup> In other words, CALEA did not apply to the internet or online applications. It bears repeating: The internet and online applications were specifically excluded from CALEA’s coverage.<sup>165</sup>

The CALEA Order released in August 2005 interprets CALEA to cover any services provided by non-telephone companies that are in some way (however minor) replacements for telephone services.<sup>166</sup> As I have explained elsewhere,<sup>167</sup> this interpretation is at best tenuous. Although CALEA defines covered “telecommunications carriers” to include entities (1) engaged in providing switching or transmission services (2) to the extent that the Commission finds such services to be “a replacement for a substantial portion of the local telephone exchange service,” the statute also *exempts* “information services” from the definition of “telecommunication carrier.”<sup>168</sup> And broadband providers and VoIP applications (as well

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162. *Id.*

163. *Id.* § 102(6)(A), 108 Stat. at 4279.

164. *Id.* § 110, 108 Stat. at 4288.

165. *See, e.g.*, H.R. REP. NO. 103-827, at 23 (“[T]he capability requirements only apply to those services or facilities that enable the subscriber to make, receive or direct calls [and] [t]hey do not apply to information services, such as electronic mail services, or on-line services, such as CompuServe, Prodigy, America-On-line or Mead Data, or Internet service providers.”).

166. CALEA Order, *supra* note 2, ¶ 10. FCC Commissioner Copps acknowledged the shortcoming of the Commission’s attitude concerning “substantial replacement,” saying: “To me, it strains credibility to suggest that Congress intended ‘a replacement for a substantial portion of the local telephone exchange’ to mean the replacement of any portion of any individual subscriber’s functionality.” *Id.* ¶ 35 (separate statement of Michael J. Copps, Comm’r).

167. *See generally* Crawford, *Shortness of Vision*, *supra* note 3.

168. 47 U.S.C. § 1001(8) (2000) (defining “telecommunications carrier”).



as any other internet application) are “information services”—indeed, the FCC has said so on many occasions.<sup>169</sup>

The statute intended to provide law enforcement faced with digital phone systems with the tappability it had been used to with analog and mechanical phone systems. Although so far there is no evidence that law enforcement is having difficulty implementing warrants for information from broadband providers or VoIP applications,<sup>170</sup> law enforcement asked the FCC to “clarify” its reading of CALEA to include these companies.<sup>171</sup> Law enforcement takes the view that because these new technologies and services are relied on by the American public, CALEA should apply to them<sup>172</sup>—even though the CALEA statute itself appears to specifically exclude them.

In response to law enforcement’s requests, the FCC issued its CALEA Order in the fall of 2005.<sup>173</sup> The CALEA Order stated generally that

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169. *E.g.*, DSL Order, *supra* note 32 (classifying wireline broadband internet access service (DSL) as an information service under the Communications Act).

170. BellSouth cited an April 2004 audit report of the Department of Justice that stated: “[T]he FBI was unable to provide the [Auditor] with data showing the extent to which state and local law enforcement has been unable to conduct electronic surveillance as a result of these delays [in implementing CALEA solutions].” Comments of BellSouth Corp., *In re* CALEA & Broadband Access & Servs., ET No. 04-295, at 2-3 n.2 (Nov. 8, 2004) (on file with author) (citing U.S. DEP’T OF JUSTICE, OFFICE OF THE INSPECTOR GEN., AUDIT REP. 04-19, IMPLEMENTATION OF THE COMMUNICATIONS ASSISTANCE FOR LAW ENFORCEMENT ACT BY THE FED. BUREAU OF INVESTIGATION 6 (2004)).

171. Law enforcement initially asked for a declaratory ruling rather than a rulemaking with respect to the CALEA scope issues. FCC declaratory rulings are supposed to terminate a controversy or remove uncertainty regarding the application of existing laws. 47 C.F.R. § 1.2 (2000). Law enforcement may have gone this route in order to avoid the notice-and-comment rulemaking that would be required by the Administrative Procedure Act for the promulgation of new rules or changes to existing rules. 15 U.S.C. § 553 (2000). The Commission proceeded, however, to issue a Notice of Proposed Rulemaking concerning CALEA’s scope. CALEA Order, *supra* note 2, ¶ 5 (“The Commission declined to issue a declaratory ruling, finding instead that it was necessary to compile a more complete record on the factual and legal issues surrounding the applicability of CALEA to broadband Internet access services and VoIP services, and thus issued a Notice of Proposed Rulemaking.”)

172. *See* AskCALEA, Frequently Asked Questions, <http://www.askcalea.net/faqs.html> (last visited Feb. 28, 2006).

173. CALEA Order, *supra* note 2. As I have explained elsewhere, the FCC’s issuance of the CALEA NPRM and subsequent CALEA Order was very likely a quid pro quo for the DOJ’s willingness to take the 9th Circuit’s *Brand X* decision to the Supreme Court on the Commission’s behalf. Crawford, *Shortness of Vision*, *supra* note 3. The DOJ is the FCC’s lawyer for petitions for certiorari, and likely refused to take *Brand X* to the Supreme Court without a clear understanding with the FCC as to how “information services” would be treated under CALEA. Section 402(j) of the Communications Act and

CALEA applies to all facilities-based broadband internet access providers (including wireless, DSL, and cable) and providers of “interconnected VoIP” services. The Order included within its scope all VoIP applications that are *capable of* connecting to the traditional telephone network, even if they do not actually connect.<sup>174</sup> In addition, the Commission (prompted by law enforcement) appears to be taking the position that all private broadband networks that are capable of connecting to the public internet are also covered by the FCC’s interpretation of CALEA.<sup>175</sup> The FCC announced in the CALEA Order that it would issue a second order (on an unstated timetable), addressing the standards for CALEA compliance.<sup>176</sup>

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section 2350(a) of the Judicial Review Act give the Commission the right to file petitions for writ of certiorari. But, “[u]nder current practice, the Commission coordinates its petitions with the Solicitor General.” Marshall J. Breger & Gary J. Edles, *Established By Practice: The Theory and Operation of Independent Federal Agencies*, 52 ADMIN. L. REV. 1111, 1252 (2000). Litigation authority matters. When the DOJ wields litigation authority, the President can ensure that “government” speaks with a single voice. *See generally* Neal Devins, *Political Will and the Unitary Executive: What Makes an Independent Agency Independent?*, 15 CARDOZO L. REV. 273, 274 (1993); Neal Devins & Michael Herz, *The Battle That Never Was: Congress, the White House, and Agency Litigation Authority*, 61 LAW & CONTEMP. PROBS. 205, 205 (1998) (“For DOJ and agency lawyers, [the question of litigation authority] is of monumental importance [but] [f]or members of Congress and their staff . . . this question is almost always a non-starter.”)

174. CALEA Order, *supra* note 2, ¶ 39 (“To be clear, a service offering is “interconnected VoIP” if it offers the capability for users to receive calls from and terminate calls to the PSTN; the offering is covered by CALEA for all VoIP communications, even those that do not involve the PSTN.”). The CALEA Order generally adopted the E911 Order’s definition of “interconnected VoIP” and indicated that the definition of “interconnected VoIP” might itself evolve over time. *Id.* ¶ 39 n.108.

175. CALEA does not apply to “equipment, facilities, or services that support the transport or switching of communications for private networks.” 47 U.S.C. § 1002(b)(2)(B) (2000). But footnote 100 of the CALEA Order appears to eviscerate this private network exception, by stating that any networks that are *capable of* connecting to the internet, and any “facilities” involved in these networks, are covered by CALEA. *See* CALEA Order, *supra* note 2, ¶ 36 n. 100. This broadening of CALEA in footnote 100 of the CALEA Order, using notions taken directly from the DOJ’s Reply Comments in this proceeding, and has caused universities and other private network providers to sue the FCC. *See* Reply Comments of the U.S. Dep’t of Justice, *In re* CALEA and Broadband Access Services, ET No. 04-295, at 18 (Fed. Comm’n Dec. 21, 2004), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516885861](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516885861); *see also infra* note 201. Arguments against footnote 100 are entirely separate from the “information services” attack on the CALEA Order. It is not clear what precisely is meant by “facilities that support the connection of the private network” to the internet, a notion that was suggested in the DOJ’s reply comments. *See infra* text accompanying note 220.

176. CALEA Order, *supra* note 2, ¶ 3.

FCC Commissioner Abernathy noted the weakness of the FCC's legal claim at the time the CALEA NRPM was issued, saying:

The NPRM we are issuing proposes a plausible interpretation of the "substantial replacement" provision in CALEA that would extend the assistance-capability requirements to broadband access services and IP telephony. But such an extension clearly would be fraught with legal risk. *The Commission thus would benefit greatly from further congressional guidance in this area.*<sup>177</sup>

She again expressed her concern when the Order was released, saying:

Because litigation is as inevitable as death and taxes, and because some might not read the statute to permit the extension of CALEA to the broadband Internet access and VoIP services at issue here, I have stated my concern that an approach like the one we adopt today is not without legal risk.<sup>178</sup>

Congress has yet to address this point. The FCC will likely extend the scope of its CALEA requirements even beyond "interconnected VoIP" (defined in the E911 proceeding to mean applications that are capable of both receiving calls from and making calls to the traditional telephone network) to other online applications with fewer direct connections to traditional phone numbers.<sup>179</sup>

## 2. Implementation Difficulties

The Order sets a definite date for broadband facilities providers and "interconnected VoIP" providers to comply with CALEA: Eighteen months following November 15, 2005 (or in May 2007), after which covered entities will be subject to \$10,000 fines for each day of non-compliance.<sup>180</sup> The trouble is, however, that the FCC has set no standards for what CALEA "compliance" means for newly-covered entities. By making compliance begin before defining what companies must do to

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177. Notice of Proposed Rulemaking and Declaratory Filing, *In re Commc'ns Assistance for Law Enforcement Act and Broadband Access and Servs.*, 19 F.C.C.R. 15,676, 15,772 (Aug. 4, 2004) (statement of Kathleen Q. Abernathy, Comm'r) (emphasis added), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-250547A2.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-250547A2.doc).

178. CALEA Order, *supra* note 2 (statement of Kathleen Q. Abernathy, Comm'r).

179. E911 Order, *supra* note 1, at 10,277 ("Are there any other services upon which the Commission should impose E911 obligations?"); CALEA Order, *supra* note 2, ¶ 39 n.108 ("To the extent that the Commission modifies its definition of interconnected VoIP in the future, the CALEA obligations we establish today for interconnected VoIP providers will reflect such modifications.")

180. CALEA Order, *supra* note 2, ¶ 3.

comply, the Commission has put technology providers in an extremely difficult position; they may end up investing in compliance measures that are later found to be unnecessary, or building in elements that later must be retrofitted to conform to a compliance scheme.

As an initial matter, it was unclear exactly what entities the Order covered, given its murkiness on the subject of “private networks”<sup>181</sup> and CALEA’s apparent complete exclusion of “information services.” Also, there are many outstanding questions under the general heading of “compliance.” What is “call-identifying information” for broadband providers? Although Section 1001(2) of CALEA defines “call-identifying information” as “dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier,”<sup>182</sup> that definition does not necessarily fit the online world.<sup>183</sup> Under current surveillance statutes, the content of communications may not be made available to government entities absent appropriate warrants. But because all online packets contain both “header” information (about routing) and “payload” or content information, it is not clear how online services can comply with CALEA’s mandate. CALEA’s requirements that the privacy of subscribers be protected and that call-identifying information may not include “any information that may disclose the physical location of the subscriber”<sup>184</sup> further complicate this question for online applications.<sup>185</sup>

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181. *See infra* note 204.

182. 47 U.S.C. § 1001(2) (2000).

183. In the CALEA Order, the Commission said that this and other questions would be answered in a forthcoming Order, including “the ability of broadband Internet access providers and VoIP providers to provide all of the capabilities that are required by section 103 of CALEA” and “what those capability requirements mean in a broadband environment.” CALEA Order, *supra* note 2, ¶ 46. Section 1002 broadly requires covered entities to ensure that their equipment, facilities, and services enable interception, isolate call-identifying information “that is reasonably available to the carrier,” allow this information to be delivered to law enforcement in an approved format, and protect subscribers’ privacy and the confidentiality of the interception. 47 U.S.C. § 1001(a)(2) (2000).

184. 47 U.S.C. § 1002(a)(2)(B) (2000). Specifically, section 1002(a)(4) states that common carriers should not disclose “call-identifying information” that is “not authorized to be intercepted.” The Commission has said that “privacy concerns could be implicated if carriers were to give to [law enforcement agencies] packets containing both call-identifying and call content information when only the former was authorized.” CALEA, Third Report and Order, 14 F.C.C.R. 16,794, ¶ 48 (1999).

185. *See Crawford, Shortness of Vision, supra* note 3, at 723 (noting that IP addresses may in fact reveal the physical location of users.)

What new designs will be required of VoIP applications? What information is “reasonably available” to these entities?<sup>186</sup> Congress sought to standardize the forms of data delivered to law enforcement, but the Commission has not identified acceptable forms of data. The FCC expressly tabled for later Orders the meaning of compliance and potential exemptions from coverage.<sup>187</sup>

The implementation of CALEA in the telephone world has been (and continues to be) extremely difficult. Law enforcement rejected an initial industry-created standard for telephony compliance (the J-standard), and it then proposed an elaborate “punchlist” of desired compliance elements.<sup>188</sup> This “punchlist” led to extensive litigation and further FCC action lasting more than a decade.<sup>189</sup> Now, in the online context, law enforcement has requested that compliance standards be set by industry, with law enforcement and the FCC to later deem those standards deficient or not.<sup>190</sup>

This method of proceeding (decide generally who is covered by CALEA, using dubious legal reasoning, without deciding what standards of compliance apply to those entities) creates enormous risks for entities newly covered by CALEA. If they are found in the future to have built products considered “deficient” by law enforcement, they run the risk of having their services taken off the market and incurring enormous fines. Indeed, law enforcement emphasized to the FCC that service providers should build their systems in the first place to be CALEA-compliant, because it would be expensive to have to retrofit them later.<sup>191</sup> All prudent businesses will want to have law enforcement approve their services, suggested the DOJ:

Service providers would be well advised to seek guidance early, preferably well before deployment of a service, if they believe that their service is not covered by CALEA. . . . DOJ would cer-

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186. The CALEA does not define or interpret the term “reasonably available.” See generally CALEA Order, *supra* note 2.

187. *Id.* ¶ 3.

188. For the history of this battle, see generally CALEA, Third Report and Order, 14 F.C.C.R. 16,794, 16,795-802 (Aug. 26, 1999).

189. See *id.* ¶ 2-11.

190. Reply Comments of U.S. Dep’t of Justice, *In re* CALEA and Broadband Access and Servs., at 39-43, ET No. 04-295 (Fed. Commc’ns Comm’n Nov. 8, 2004) (arguing that DOJ prefers to use the deficiency petition process to resolve standards disputes), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516793569](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516793569).

191. *Id.* at 44-45.

tainly consider a service provider's failure to request such guidance in any enforcement action.<sup>192</sup>

This is a threat: come negotiate with us first, or you will run the risk of being subject to penalties later. The warning flies in the face of the legislative history of CALEA, for Congress said when the statute was adopted that "if a service of [sic] technology cannot reasonably be brought into compliance with the interception requirements, then the service or technology can be deployed," and rejected "original versions of the legislation, which would have barred introduction of services or features that could not be tapped."<sup>193</sup>

But service providers reading the CALEA Order had to take law enforcement's pre-approval approach seriously because it was apparent that law enforcement was feeling powerful. This was extremely awkward for technology providers, because they were unsure what the standards were to which they were going to need to build, and, in some cases, whether they were covered by the statute's mandates in the first place. The CALEA Order arguably created a cloud over innovation and product development, particularly for smaller technology providers who might be unable to bear the costs of potentially unlimited compliance requests by law enforcement.<sup>194</sup>

For example, pulver.com makes a free service called Free World Dialup available to the public. Free World Dialup (FWD) uses peer-to-peer connections between people communicating, but is capable of connecting to the traditional telephone network.<sup>195</sup> Because it is a free service, no compliance costs are bearable. But pulver is unsure whether CALEA applies to Free World Dialup, and has therefore decided to cease to provide FWD in the U.S.<sup>196</sup> Similarly, Skype is a peer-to-peer application that

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192. *Id.* at 11.

193. H.R. REP. NO. 103-827, at 23 (1994).

194. For example, a small business making mesh network access available to rural areas (by providing equipment that allows each computer to seek out other nodes that may or may not be connected to the internet) might be forced under the CALEA Order to comply with unpredictable "punchlist" demands by law enforcement, and would likely respond by going out of business. CALEA compliance would likely be nearly impossible for open source projects that always publish their code publicly. *See* Comments of 8x8, Inc. et al., *In re* CALEA, ET No. 04-295, and Broadband Access and Services, RM-10865, at 1-5 (Fed. Comm'ns Comm'n Jan. 31, 2005) (petitioning for reconsideration and clarification of the CALEA applicability Order), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518192043](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518192043).

195. *See* FWD, <http://www.freeworlddialup.com> (last visited Apr. 15, 2006).

196. Greg Piper, *Groups Ask Appeals Court to Overturn FCC CALEA Order*, COMM. DAILY, Oct. 26, 2005; E-mail from Jonathan Askin, General Counsel, pulver.com, to

has been downloaded by more than 150 million people.<sup>197</sup> Subscribers can purchase from Skype the ability to connect to traditional telephone numbers and to receive calls from traditional telephone subscribers. It is unclear whether Skype is covered by CALEA.<sup>198</sup>

Although the first CALEA order issued by the FCC covers only scope—the question of which entities are considered by the FCC to be obligated to comply with CALEA—law enforcement, in the coming months, will likely dictate to the FCC its strong view of the mandatory requirements to be applied to the internet and VoIP applications.<sup>199</sup> And, of course, VeriSign stands ready to provide the data formats preferred by law enforcement. Indeed, law enforcement has cited VeriSign's service pitches in arguing that CALEA compliance will not be expensive and, therefore, that the costs for such compliance may be borne by the businesses covered by the CALEA statute.<sup>200</sup>

Soon after the FCC published the CALEA Order, five sets of parties sought to have it stayed or reversed by the D.C. Circuit.<sup>201</sup> For example,

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Susan P. Crawford, Assistant Prof. of Law, Benjamin N. Cardozo School of Law (Dec. 20, 2005 3:53:00 pm) (on file with author) (noting that pulver.com has “chosen not to offer a PSTN-connected VoIP service in the US because of the FCC's backward-looking, anti-innovative rules on E-911 and CALEA”).

197. In late 2005, eBay purchased Skype for \$2.6 billion. Richard Waters & Paul Taylor, *Ebay, Skype Deal Challenges Rivals*, FT.COM, Sept. 12, 2005, <http://news.ft.com/cms/s/45b40bd0-2326-11da-86cc-00000e2511c8.html>.

198. Ryan Singel, *Furor Grows Over Internet Bugging*, WIRED NEWS (Oct. 20, 2005), <http://www.wirednews.com/news/technology/0,69277-0.html> (noting that CALEA Order “appears to pull in” Skype; Skype did not return a call seeking comment).

199. The FCC announced in the CALEA Order that it would issue a second order (on an unstated timetable) addressing the standards for CALEA compliance. CALEA Order, *supra* note 2, ¶ 3. The generally-accepted wisdom of FCC-watchers was that the FCC would not refuse any requests law enforcement made for particular elements of compliance.

200. Joint Reply Comments of U.S. Dep't of Justice, FBI, & DEA, *In re* Joint Petition for Rulemaking to Resolve Various Outstanding Issues Concerning the Implementation of CALEA, RM-10865, at 47 n. 114 (Fed. Commc'ns Comm'n Apr. 27, 2004) (“[Concerning] CALEA compliance costs. . . one solution vendor (Verisign) stated in its comments that. . . solutions are available at reasonable prices. . . Verisign's ex parte presentation dated April 15, 2004 shows, the CALEA capital costs for VOIP and IP-enabled services. . . range from \$100,000 to 405,000 per year.”), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516182053](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516182053).

201. All of these cases were filed in the D.C. Circuit with the FCC and the United States as respondents: No. 05-1404, American Council on Education; No. 05-1408, American Library Association, Association of Research Libraries, Center for Democracy & Technology, COMPTTEL, Electronic Frontier Foundation, Electronic Privacy Information Center, Pulver.com, Sun Microsystems; No. 05-1438, American Civil Liberties Union; No. 05-1451, Pacific Northwest GigaPOP, Corporation for Education Network Ini-

the American Council on Education (ACE), a trade association for institutions of higher education in the U.S., filed a lawsuit on Oct. 24, 2005, alleging that the Order would cause a \$7 billion upgrading expense to colleges and universities who provide broadband access to others.<sup>202</sup> ACE argued that the “incredible cost of compliance” made the Order an inefficient approach to assisting law enforcement.<sup>203</sup> ACE also noted that CALEA cannot be read to apply to providers of facilities that connect private networks to public networks, because Congress made clear in the statute that CALEA requirements do not apply to “equipment, facilities, or services that support the transport or switching of communications for private networks.”<sup>204</sup> The Center for Democracy and Technology (CDT), together with a large group of other civil society groups and companies, sought relief from the Order on the grounds that it exceeded the Commission’s statutory authority and was arbitrary and capricious in establishing a hard deadline for compliance without saying what compliance entailed.<sup>205</sup> The CDT lawsuit also emphasized the substantial risks to innovation<sup>206</sup> posed by forcing service providers to seek approval from law enforcement before launching any potentially CALEA-covered application or network facility.<sup>207</sup>

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tatives in California, Internet2, and National LambdaRail; No. 05-1453, American Association of Community Colleges et al. *See* Brief for Petitioners, Am. Council on Educ. v. FCC, No. 05-1404 (D.C. Cir. Jan. 26, 2006), *available at* [http://www.cdt.org/digi\\_tele/20060126ace-opening-brief.pdf](http://www.cdt.org/digi_tele/20060126ace-opening-brief.pdf). The cases were consolidated for expedited briefing and argument in mid-December 2005.

202. Press Release, American Council on Education, ACE Files Suit Against FCC Over New Wiretapping Regulations (Oct. 24, 2005), <http://www.acenet.edu> (search for “Ace files suit against FCC”; then link to press release); Declan McCullagh, *FBI Net-wiretapping Rules Face Challenges*, CNET NEWS.COM, Oct. 25, 2005, [http://news.com.com/FBI+Net-wiretapping+rules+face+challenges/2100-1028\\_3-5911676.html](http://news.com.com/FBI+Net-wiretapping+rules+face+challenges/2100-1028_3-5911676.html).

203. Ace Files Suit, *supra* note 202.

204. Brief for Petitioners, *supra* note 201, at 4.

205. This group also includes the American Library Association, the Association of Research Libraries, COMPTEL, the Electronic Frontier Foundation, the Electronic Privacy Information Center, Pulver.com, and Sun Microsystems. *Id.* at cover page.

206. In addition to the risks to innovation, Susan Landau of Sun Microsystems argues in a recent paper that applying CALEA to VoIP poses substantial national security risks. Susan Landau, *National Security On the Line*, at 27-35 (Dec. 30, 2005) (unpublished manuscript, on file with author) (“[I]n the current communications environment, with an unsecured Internet upon which critical infrastructure depends heavily, building surveillance technology directly into Internet protocols has very negative national-security implications.”).

207. CDT and its co-petitioners filed their opening brief on Jan. 26, 2006. Brief for Petitioners, *supra* note 201, at 71. Oral argument has not yet been scheduled.



### 3. *The Capture Story*

CALEA is similar to E911 in that in both proceedings some of the incumbent Baby Bells are pushing for CALEA compliance that will burden their competitors, the VoIP providers.<sup>208</sup> And the key compliance vendor, VeriSign, did its best to persuade the Commission that its service bureau model would minimize any impacts on innovation that application providers might otherwise experience.<sup>209</sup> In the end, the Commission's CALEA Order did recognize that "[i]ndustry solutions" for compliance with CALEA "appear to be readily available."<sup>210</sup>

VeriSign did more than simply hawk its services, however (although it did that with astonishing bravado). It also toiled to persuade the Commission that the U.S. lags behind other countries in its support for law en-

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208. Verizon filed comments strongly supporting the Commission's reading of CALEA to include VoIP providers. See Comments of Verizon, *supra* note 45, at 5, 48-50; Reply Comments of Verizon, *In re CALEA and Broadband Access Servs.*, ET No. 04-295, RM-10865, at 10 (Fed. Commc'ns Comm'n Dec. 21, 2004), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516885832](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516885832). It also supported the Commission's determination that law enforcement needs mandated extension of CALEA to all broadband providers. Comments of Verizon, *supra* note 45, at 8 (arguing that CALEA should be applied to all broadband access providers because to do otherwise would enable individuals "to avoid electronic surveillance simply by switching to VoIP service"). SBC also pushed for CALEA requirements to be broadly applied to ensure a level playing field. See Comments of SBC Commc'ns, *In re CALEA*, ET No. 04-295, at 7 (Fed. Commc'ns Comm. Nov. 8, 2004) (stating that "the Commission must ensure that the application of CALEA is competitively neutral . . . [a]ll service providers, regardless of the platform they use to deliver the services (i.e., cable, DSL, wireless, satellite, powerline), should be subject to the same CALEA obligations"), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516793572](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516793572).

209. VeriSign made clear to the Commission that it already had a compliance service in the marketplace. See Ex Parte Presentation of VeriSign, *supra* note 57, at 1 ("VeriSign is a globally recognized leader in providing an array of large-scale, ultra-high availability infrastructure support capabilities for . . . lawfully authorized electronic surveillance (lawful interception) capability requirements to communication providers globally, other lawful access services (i.e., subpoena processing)."). Although a list of VeriSign's customers for NetDiscovery is not public, Vonage and Cox Communications have both adopted this service. Press Release, VeriSign, VeriSign NetDiscovery Services Selected by Vonage (Mar. 8, 2004), [http://www.verisign.com/verisign-inc/news-and-events/news-archive/us-news-2005/page\\_028679.html](http://www.verisign.com/verisign-inc/news-and-events/news-archive/us-news-2005/page_028679.html); Press Release, VeriSign, VeriSign NetDiscovery Services Implemented by Cox Communications (Apr. 5, 2004), [http://www.verisign.com/verisign-inc/news-and-events/news-archive/us-news-2004/page\\_004015.html](http://www.verisign.com/verisign-inc/news-and-events/news-archive/us-news-2004/page_004015.html). Vonage is far larger than the other VoIP players. See *Internet Phone Service Vonage Hits 155,000 Users*, FORBES.COM, May 17, 2004, <http://www.forbes.com/technology/networks/newswire/2004/05/17/rtr1373314.html>.

210. CALEA Order, *supra* note 2, ¶ 43.

forcement's lawful access to communications.<sup>211</sup> For example, in a presentation by VeriSign in July 2004, the company repeatedly stated that the Commission's action on CALEA for broadband and VoIP was needed to align with "worldwide requirements" and "worldwide related activities and actions."<sup>212</sup> VeriSign implied that "Next Generation Network" standard-setting activities around the world justified that CALEA mandates be put in place.<sup>213</sup>

Even after the Commission issued its CALEA order in September 2005, VeriSign continued to agitate for better treatment. It suggested (while reminding the Commission of its existing compliance service bureau offering) that all providers of VoIP services (not just those interconnecting with the traditional telephone network) be covered by the mandate.<sup>214</sup> VeriSign urged the Commission to hurry up with the implementation of its order, saying that VeriSign had been *relying* on the Commission's imposition of CALEA on a broad range of applications and services.<sup>215</sup> VeriSign also stated that any potential incurred costs to entities covered by the CALEA mandate "can be readily outsourced with a CALEA service bureau as part of a compliance agreement"—VeriSign's

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211. *E.g.*, Reply Comments of VeriSign, Inc., *In re* Joint Petition for Rulemaking to Resolve Various Outstanding Issues Concerning Implementation of the CALEA, RM-10865, at 4-5 (Fed. Commc'ns Comm'n Apr. 27, 2004) ("[T]he capabilities sought by law enforcement have been available for more than a decade, and deployed on an ad-hoc basis in the U.S. over that period. In some G8 countries, this has occurred on a national scale."), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516089605](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516089605).

212. Ex Parte Presentation of VeriSign, *supra* note 57, at 7.

213. *See id.* at 10. "Next Generation Network" is an umbrella term for the kind of network that incumbent telephone companies and cable companies would like to substitute for the public internet. It is characterized by services that, much like those provided by mobile phone companies, can be easily tracked and charged; it is a "walled garden" that is controlled by the service provider. According to Wikipedia, "The general idea behind NGN is that all information is transmitted via packets, like the Internet; packets are labeled according to their type (data, voice, etc) and handled differently for QoS [quality of service] and security purposes by traffic management equipment." Next Generation Networking, WIKIPEDIA: THE FREE ENCYCLOPEDIA, [http://en.wikipedia.org/wiki/Next\\_Generation\\_Networking](http://en.wikipedia.org/wiki/Next_Generation_Networking) (last visited Feb. 28, 2006).

214. Comments of VeriSign, Inc., *In re* CALEA and Broadband Access Servs., ET No. 04-295, at 2 (Fed. Commc'ns Comm'n Nov. 14, 2005), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518180053](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518180053).

215. VeriSign, Inc. Opposition, Request for Stay Pending Issuance of Subsequent Orders and for Stay Pending Judicial Review, *In re* CALEA and Broadband Access Servs., ET Nos. 04-295, RM-10865, at 10 (Fed. Commc'ns Comm'n Dec. 2, 2005).

service—and that these costs would quickly end if the scope of the Commission’s CALEA mandate was found to be improper by a court.<sup>216</sup>

But the overall capture profile for CALEA is different from that for E911. Although compliance companies—most notably VeriSign—would like to ensure that their services are called for by the Order, and the FCC takes some comfort in requiring CALEA compliance of broadband providers and “interconnected VoIP” companies because of the existence of such third-party services,<sup>217</sup> the Commission has not yet stated what compliance with CALEA will entail. Third party providers of outsourced services are thus not as firmly in the driver’s seat in the CALEA context as they are in the E911 realm: In CALEA there is no legacy infrastructure (or even a set of standards) over which a third party already has control. Third parties like VeriSign, accordingly, could promise as a “trusted third party” to install Carnivore-like black boxes<sup>218</sup> to inhale all data from broadband providers and applications, and then parse it on behalf of law enforcement,<sup>219</sup> but the FCC’s initial Order did not state whether that would be enough for law enforcement. Indeed, law enforcement comments in the CALEA proceeding made clear that they wanted to maintain direct contact with entities covered by the statute in order to ensure compliance with all of their demands.<sup>220</sup>

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216. *Id.*

217. CALEA Order, *supra* note 2, ¶ 43, n. 126-27 (noting VeriSign’s claim of the “ready availability [to providers of VoIP and broadband Internet access services] of high-performance, reasonably priced adjunct devices capable of supporting law enforcement needs,” and citing Vonage’s adoption of VeriSign’s NetDiscovery services (internal quotations omitted)).

218. *See generally* Carnivore FAQ, <http://corz.org/public/docs/privacy/carnivore-faq.html> (last visited Apr. 15, 2006).

219. *See* VeriSign Comments, *supra* note 56, at 8 (noting use in service bureau model of “isolated adjunct devices that passively duplicate transmission streams and actively filter target communications”). VeriSign even promised to adjust to law enforcement demands without necessarily needing to consult with the covered entity. *Id.* at 21 (“If standards do not exist, or are deemed deficient by law enforcement, or are evolving because of changed or additional law enforcement requirements, the service bureau effects necessary interim solutions to the satisfaction of law enforcement and their collection and analysis equipment vendors.”).

220. *E.g.*, Reply Comments of U.S. Dep’t of Justice, *In re* CALEA and Broadband Access Servs., ET No. 04-295, at 28-29 (Fed. Commc’ns Comm’n Dec. 21, 2004) (noting that entities obligated to comply with CALEA must remain fully involved in designing CALEA solutions; Commission should be reluctant to shift CALEA responsibilities to trusted third parties), *available at* [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516885861](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516885861).

The real story of this rulemaking is that law enforcement drove the Commission to rely on an unsupportable reading of CALEA. At least one of the Baby Bells even recognized this. As BellSouth commented:

[N]ational security concerns should not and cannot be used as a veil for the Commission to embark upon an administrative rewrite of CALEA when the statute does not grant such authority. . . . [M]any of the rules and requirements proposed in the [NPRM] are plainly inconsistent with both the language and legislative history of the statute. . . . To the extent the needs of law enforcement have changed and communications technology has evolved since CALEA was enacted, law enforcement and the industry should work with Congress to amend the current law.<sup>221</sup>

The *Brand X* deal<sup>222</sup> and the heavy hand of law enforcement in the post-9/11 world pressured the FCC into doing the best it could to give law enforcement the design authority it sought, while shielding the DOJ from the vicissitudes of the legislative process. In effect, the Commission—*encouraged* by law enforcement—reached the conclusion that it would apply CALEA to broadband and VoIP and then backed into the legal reasoning it needed in order to do this without Congressional authorization. But, as noted by Congress at the time of CALEA's enactment, CALEA was “not intended to guarantee ‘one-stop shopping’ for law enforcement,”<sup>223</sup> and it is very likely that the lawsuits already filed will slow the broadening of CALEA that law enforcement seeks.

Again, as in the E911 setting, the Commission's actions in construing CALEA in the manner that it did were not necessarily corrupt. It is very likely that the Commission was told, as Americans are told these days in many contexts, that the FCC's failure to extend CALEA would exacerbate the United States' vulnerabilities. The absence of a colorable legal justification to issue the CALEA Order did not stop the FCC from acting. It undoubtedly believed it was helping those who protect United States citizens.<sup>224</sup>

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221. Comments of BellSouth Corp., *In re CALEA and Broadband Access Servs.*, ET No. 04-295, at 2 (Fed. Comm'n Nov. 8, 2004), available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6516793535](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516793535).

222. See *supra* note 173.

223. H.R. REP. NO. 103-827, pt. 1, at 22 (1994).

224. A possible parallel looms here: the (very persuasive and powerful) content community caused the FCC, in the broadcast flag context, to take the position that it had jurisdiction to mandate that all devices capable of receiving a digital television signal have secure digital outputs that prevented onward transmission of a marked file over the internet. In the flag context, as in the CALEA context, not having legal authority did not

#### IV. NEW FORMS OF CAPTURE

The delegation by Congress of broad power over communications to an independent, unaccountable “expert” agency is, in this age of convergence, leading to a situation in which the capture of “new technology” rulemakings by “old technology” companies and interests is very likely. Out of the glare of public scrutiny that would likely accompany any attempt to legislate in the CALEA and E911 context, incumbents, law enforcement, and vendors of compliance services are finding it relatively easy to exact Commission rules that favor these parties and keep the world of telephony policy in place. These parties would find it relatively difficult to obtain these same rules from Congress, because more interest groups would be involved and more eyes would be watching. Because “innovation” does not have a lobbyist, and because the providers of online services are not as well-organized, well-funded, or well-connected as the capturers are, opposition to the Commission’s initiatives is easily ignored. The mainstream press is not paying attention to the enormous power grab that is proceeding at the Commission. And there is no way to remove from office the Chairman and Commissioners who have brought these most recent rules to pass. The only way to address the FCC’s actions is to sue, and both of these rules have prompted lawsuits. The aim of this Part is to summarize the pre-issuance capture story these case studies reveal, in hopes that Congress will be more careful in the future. This Part proceeds in three subsections: an explanation of the delegation history for the two rulemakings, an exploration of the “expertise” of the FCC in these two areas, and the capture narrative.

##### A. Delegation

These two rulemakings do not have the same delegation background. In the CALEA context, it is extremely unlikely that Congress intended for broadband access and VoIP services to be covered by CALEA.<sup>225</sup> Thus, it is likely that the D.C. Circuit will find that no delegation has occurred, and law enforcement will need to return to the Hill in order to obtain the authority it seeks.

In the E911 world, by contrast, recent case law interprets the Commission’s “ancillary authority” under the Telecommunications Act to give the FCC almost unlimited power over anything concerning a wire or a radio signal in the U.S.—and thus, impliedly, over any application used

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stop the FCC from acting. See Crawford, *The Biology of the Broadcast Flag*, *supra* note 71, at 608-16.

225. See discussion *supra* Section III.C.i.

online.<sup>226</sup> Given the importance of the internet to the economic future of this country, Congress should act to discipline the Commission's authority; at the very least, Congress should be explicit that it is giving power over the internet to the FCC.

The Commission divides all possible radio and wire communications into two broad categories: (1) telecommunications services, regulated under Title II of the Communications Act, and required to charge tariffed fees, pay into the universal service fund, and not discriminate against others who want to connect to them; and (2) information services.<sup>227</sup> The FCC has taken the position that all IP-enabled services of whatever description (save for the Internet Protocol itself, or "internet governance") fit into the information services category,<sup>228</sup> and therefore are regulated under its general powers (including its "ancillary" powers) under Title I. Commentators have even referred to "Title I" and "Title II" services.<sup>229</sup>

Title I contains a "necessary and proper" rulemaking provision, Section 154(i), that says that the Commission may "perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions."<sup>230</sup>

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226. See, e.g., *United States v. Sw. Cable Co.*, 392 U.S. 157 (1968).

227. See *In re IP-Enabled Services*, 19 F.C.C.R. 4863, 4880-81 (Fed. Comm'n Mar. 10, 2004).

228. *Id.* at 4864 n.1.

229. JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE* 213 (2005). In the E911 context, the FCC finessed the classification question, saying that it had not decided whether interconnected VoIP services were telecommunications services or information services, but that it analyzed E911 primarily under its Title I ancillary jurisdiction "to encompass both types of service." E911 Order, *supra* note 1, at 10,256. It is astonishing for the Commission to avoid deciding (or declaring) where its authority comes from in taking a particular regulatory position. However, the FCC had every political reason to approach the VoIP E911 question in this way; the public outcry that would have resulted if the FCC had attempted to create tariffing structures and interconnection requirements and special charges for VoIP services made the choice of Title II classification inappropriate, but the FCC's ancillary Title I jurisdiction over "interconnected VoIP" services is unclear (as I discuss *infra*). And so the Commission spread its bets by choosing both classifications. The FCC may have wished to avoid any conflict with a 1998 FCC report (the "Stevens Report") that reviewed VoIP services in connection with universal service obligations. See generally Report to Congress, *In re Federal-State Joint Board on Universal Serv.*, CC No. 96-45 (Fed. Comm'n Apr. 10, 1998) [hereinafter Stevens Report], available at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=2062770001](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=2062770001). The Commission tentatively concluded in the Stevens Report that some "phone-to-phone" VOIP services "lack[] the characteristics that would render them "information services" within the meaning of the statute, and instead bear the characteristics of "telecommunications services." *Id.* at 3.

230. 47 U.S.C. § 154(i) (2000).

This Section allows the Commission to implement regulations that are necessary to carry out its explicit responsibilities under the Communications Act, and courts have found that the FCC can exercise “ancillary authority” to adopt legislative rules using Section 154(i) when two conditions are met: (1) it otherwise has subject matter jurisdiction over the service to be regulated<sup>231</sup> and (2) its regulations are reasonably ancillary to the Commission’s effective performance of its statutorily mandated responsibilities.<sup>232</sup>

From the Commission’s perspective, the only question it must answer for the first part of this test is whether “interconnected VoIP” services specifically, or IP-enabled services generally, use wires or radios. Because they do, the FCC asserts that “these services come within the scope of the Commission’s subject matter jurisdiction granted in section [152(a)] of the Act.”<sup>233</sup> Following the Commission’s logic, Section 152(a) gives the Commission subject matter authority over all communications by wire and radio anywhere in the world.<sup>234</sup>

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231. See *Sw. Cable Co.*, 392 U.S. at 172-75 (upholding cable television regulations before FCC had express congressional grant of regulatory authority over cable); *In re Digital Broadcast Content Protection*, MB 02-230, at 14 (Fed. Commc’ns Comm’n Nov. 4, 2003), available at [http://www.eff.org/IP/Video/HDTV/20031104\\_fcc\\_order.pdf](http://www.eff.org/IP/Video/HDTV/20031104_fcc_order.pdf).

232. See *Sw. Cable Co.*, 392 U.S. at 178. The D.C. Circuit has recently been quite skeptical of the Commission’s Title I authority. When the FCC used its Title I jurisdiction to justify video description for television programs, the D.C. Circuit struck down those rules because they were outside the Commission’s authority. *Motion Picture Ass’n of Am., Inc. v. FCC*, 309 F.3d 796, 798-99 (D.C. Cir. 2002). And in *American Library Ass’n v. FCC*, the D.C. Circuit ruled that the Commission lacked authority to impose broadcast content redistribution rules on equipment manufacturers (the “broadcast flag” rules) using its Title I ancillary jurisdiction because the equipment was not subject to the Commission’s subject matter jurisdiction. 406 F.3d 689, 692 (D.C. Cir. 2005). The FCC argued for very broad ancillary authority in the broadcast flag case, announcing that unless Congress has told the Commission it cannot regulate, it has the power to adopt any rules that “effectuate the goals” of the Communications Act with respect to “instrumentalities, facilities, and apparatus associated with the overall circuit of messages sent and received” via wire or radio. *Am. Library Ass’n*, 406 F.3d at 698 (citing Brief for respondent); E911 Order, *supra* note 1, at 10,264-65.

233. E911 Order, *supra* note 1, at 10,261-62.

234. Section 152(a) is about the scope of the coverage of the Act—it intentionally excludes people in the Canal Zone, for example—and says nothing about rulemaking authority. The section states:

The provisions of this chapter shall apply to all interstate *and foreign communication* by wire or radio and all interstate and foreign transmission of energy by radio, which originates *and/or is received* within the United States, and to all persons engaged within the United States in such communication or such transmission of energy by radio, and to the licensing and regulating of all radio stations as hereinafter provided;

As for the second step in the ancillary jurisdiction test, the Commission acknowledges in a footnote that the Telecommunications Act states that “[i]t is the policy of the United States—to preserve the vibrant and competitive free market that presently exists for the internet and other interactive computer services, unfettered by Federal or State regulation.”<sup>235</sup> At the same time, the Commission asserts that it does not believe that this “policy statement precludes [it] from adopting E911 rules for interconnected VoIP providers here.”<sup>236</sup> The Commission rehearses its “safety of life and property” arguments, notes that it has imposed E911 rules on providers of new telephone technologies, argues that Congress has “ratified” its exercises of authority in this area in the 1999 Wireless Act, and asserts that the Order is reasonably ancillary to the Commission’s effective performance of its statutorily mandated responsibilities.

In the NPRM accompanying the E911 Order, the Commission reveals its intention to do even more. As noted, the FCC appears to be considering whether to require any VoIP-capable device to be able by June 2006 to automatically determine its location to be provided in a E911 call.<sup>237</sup> The FCC questions whether its focus on “interconnected VoIP” services is too narrow.<sup>238</sup> The Commission is considering adopting consumer privacy protections applicable to E911 service, implying that the FCC will create through regulation broad online privacy rules that to date Congress has resisted legislating.<sup>239</sup> It is very likely that future IP-enabled services “social policies” will be based on the same jurisdictional arguments.

The chief problem with the Commission’s claims is that the jurisdictional arguments made in the E911 Order have very few principled limits. Anything that has something to do with a wire or a radio may be asserted

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but it shall not apply to persons engaged in wire or radio communication or transmission in the Canal Zone, or to wire or radio communication or transmission wholly within the Canal Zone. The provisions of this chapter shall apply with respect to cable service, to all persons engaged within the United States in providing such service, and to the facilities of cable operators which relate to such service, as provided in subchapter V-A.

47 U.S.C. § 152(a) (2000).

235. 47 U.S.C. § 230(b)(2) (2000).

236. E911 Order, *supra* note 1, at 10,262 n. 95.

237. *See id.* ¶ 57. Arguably, Congress in Section 230 of the Telecommunications Act said clearly that special federal regulation of “internet services” was inappropriate. It appears that the Commission has convinced itself that the word “regulation” in Section 230 refers only to Title II common carrier-type regulations having to do with tariffs and interconnection, and not to “social policies.” *See* 47 U.S.C. § 230.

238. *See* E911 Order, *supra* note 1, ¶ 58.

239. *See id.* ¶ 62.



to be within the FCC's jurisdiction, and the FCC may expand the scope of its policies at any time. Although the Telecommunications Act does not impose any explicit regulatory burdens on "information services," the FCC views itself to have complete discretion under its "ancillary jurisdiction" to decide what requirements it should mandate with respect to these services.<sup>240</sup>

The FCC's policy, until relatively recently, was that online services should be unregulated.<sup>241</sup> As it turns out, however, all services that use the Internet Protocol are "unregulated" only in the sense that they are not classified as Title II common carrier services (subjected to tariffing and interconnection obligations), even though they are regulated in reality. The E911 Order is the clearest demonstration to date that the FCC's telephony mindset drives it to believe that it has absolute discretion under Title I to impose fundamentally unchanged telephony-based mandates on IP-enabled services.<sup>242</sup>

The Commission's belief in its "unregulation" agenda for IP-enabled services received a substantial shot in the arm as a result of the Supreme

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240. The FCC's views about its Title I jurisdiction have become more aggressive in recent years. In 2001, in its approval of the AOL-Time Warner merger, the Commission imposed conditions on AOL's instant messaging application (conditions that were later lifted), but based its authority on its power over approving spectrum license transfers from Time Warner's cable companies, broadcast companies, and telephony interests to the merged entity as well as on its Title I jurisdiction. *See Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee*, 16 F.C.C.R. 6547 (Jan. 22, 2001). This assertion of Title I jurisdiction was not tested on appeal. Today, in 2005, it is very likely that the Commission would base its authority to regulate instant messaging solely on its ancillary jurisdiction under Title I.

241. *See* Jason Oxman, *The FCC and the Unregulation of the Internet* (Fed. Comm'n Comm'n Office of Plans & Policy, Working Paper No. 31, 1999), [http://www.fcc.gov/Bureaus/OPP/working\\_papers/oppwp31.pdf](http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf), at 22.

242. Philip Weiser has recommended that the FCC regulate all internet services under Title I using antitrust principles. *See* Philip J. Weiser, *Toward a Next Generation Regulatory Strategy*, 35 LOY. U. CHI. L.J. 41, 66 (2003) ("outlin[ing] how the FCC can rely on its Title I authority to employ a reactive, antitrust-like model of regulation for the emerging broadband market"). By contrast, James Speta takes the view that Title I does not stretch as far as the Commission would like it to, and that the FCC's regulatory authority should be limited. James B. Speta, *FCC Authority To Regulate the Internet: Creating It and Limiting It*, 35 LOY. U. CHI. L.J. 15, 22-24, 38-39 (2003). The Commission appears to be listening to neither Weiser nor Speta, because it is forging ahead with non-antitrust regulation under a broad reading of Title I. It will take a substantial change in public concern over the fate of internet services and a clearly different congressional direction for the Commission to change its approach.

Court's recent *Brand X* opinion.<sup>243</sup> Justice Thomas, writing for the Court, ruled in support of judicial deference to the Commission's determination that cable modem internet access service is an "information service."<sup>244</sup> This holding was legally sound, but in dicta the Court said that although "information-service providers . . . are not subject to mandatory common-carrier regulation under Title II . . . the Commission has jurisdiction to impose additional regulatory obligations under its Title I ancillary jurisdiction,"<sup>245</sup> and indicated that policy in this "technical and complex" area should be set by the Commission (and thus impliedly not by the courts or Congress).<sup>246</sup>

This dicta in *Brand X* can fairly be read to give the Commission complete discretion over what rules to mandate with respect to "information services" (including the internet), even if those rules adopted (like E911) look just like rules applied to common carriers. In other words, classification of services as "telecommunications," on the one hand, or "information services," on the other, has become a matter of form over substance. Even if something is called an "information service," the Commission can mandate requirements of it that used to be required only of "communications services." The opinion also signals that the internet is too difficult and complicated for any branch of government other than the FCC to deal with.<sup>247</sup>

Justice Scalia's stinging dissent makes the judicial grant of power to the Commission clear:

[W]hat the Commission hath given [by classifying cable modem service as an information service], the Commission may well take away—unless it doesn't. This is a wonderful illustration of how an experienced agency can (with some assistance from credulous courts) turn statutory constraints into bureaucratic discretions.<sup>248</sup>

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243. See *Nat'l Cable and Telecomm. Ass'n v. Brand X Internet Serv.*, 125 S. Ct. 2688, 2712 (2005).

244. *Id.* at 2690.

245. *Id.* at 2696.

246. See *id.* at 2705.

247. See *id.* at 2712 ("The questions the Commission resolved in the order under review involve a 'subject matter [that] is technical, complex, and dynamic.' . . . Nothing in the Communications Act or the Administrative Procedure Act makes unlawful the Commission's use of its expert policy judgment to resolve these difficult questions.") (citations omitted).

248. *Id.* at 2718 (Scalia, J., dissenting).

The E911 Order marks only the beginning of the Commission's regulation of the internet under its unprincipled (and potentially unlimited) reading of its ancillary jurisdiction. In this crucial area, silence (or even ambiguous statements) by Congress should not afford the Commission such enormous powers.<sup>249</sup> Congress should act to cabin and explicate the scope of the Commission's authority to regulate the internet. The difficult and important question of how to govern the internet should be answered explicitly rather than through formalistic re-characterization of internet services by an independent agency.<sup>250</sup>

## B. Expertise

To the extent that the FCC's expertise and political neutrality legitimate congressional delegation of power over IP-enabled services (if such delegation occurred),<sup>251</sup> both the E911 and CALEA rulemakings substantially undermine this theory.

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249. For important questions, or questions with substantial economic impact, the Supreme Court has ruled that an agency's interpretation of an ambiguous statute deserves no deference:

Deference under Chevron to an agency's construction of a statute that it administers is premised on the theory that a statute's ambiguity constitutes an implicit delegation from Congress to the agency to fill in the statutory gaps. In extraordinary cases, however, there may be reason to hesitate before concluding that Congress has intended such an implicit delegation.

Food & Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 159 (2000) (citations omitted). Regulation of the internet is the kind of "extraordinary case" to which the Court was referring. As in Brown & Williamson, this broad swath of regulatory power (i) addresses an important domain—regulation of a great "basic industry"—for which authority could not have been delegated accidentally; and (ii) concerns a question about which Congress has already enacted several statutes. Congress should refuse to grant such broad jurisdiction to a single, easily captured agency.

250. See John T. Nakahata, *Broadband Regulation at the Demise of the 1934 Act: The Challenge of Muddling Through*, 12 COMM'LAW CONSPECTUS 169 (2004) (questioning the Commission's authority to create new regulatory structures for "Title I" services).

251. Independent agencies were supposed to be "a body of experts who shall gain experience by length of service—a body which shall be independent of executive authority, except in its selection, and free to exercise its judgment." Marshall J. Brefer & Gary J. Edles, *Established by Practice: The Theory and Operation of Independent Federal Agencies*, 52 ADMIN. L. REV. 1111, 1113 (2000) (citing *Humphrey's Ex'r v. United States*, 295 U.S. 602, 625-26 (1935) (internal quotation marks and citation omitted)). "[T]he independent commission as an organizational form did not emerge full-blown with the passage of the Interstate Commerce Act. Rather, it evolved over the course of several decades, coming to maturity late in the Progressive Era." MARC ALLEN EISNER, *REGULATORY POLITICS IN TRANSITION* 48 (1993). The Progressives saw great value in independent regulatory commissions, as "an important conduit through which market correction was administered." Brefer & Edles, *supra*, at 1131. The idea of expert admin-

It is not just that the Commission needed the technical assistance of Intrado and VeriSign to write these rules—agency resource limitations often dictate that the help of outside parties is called for. And it is not just that law enforcement forced the Commission into the CALEA rulemaking as a quid pro quo for the DOJ’s help with the *Brand X* case, or that both rulemakings—despite their heavily regulatory character—fit neatly into the apparent thematic thread of the current White House by emphasizing security and law enforcement. It is more that both rulemaking efforts ignore major technical differences between the telephone system (centralized, controllable) and the internet (decentralized, any service can be added without permission), and attempt to apply telephony-based rules to the internet with almost no changes. This element of the E911 and CALEA rules, failing to consider alternative ways of reaching desirable social goals, demonstrates the Commission’s inexpert approach toward a world that has changed enormously. Expertise was not the basis of these rules. Indeed, it is easy to demonstrate better ways of reaching the FCC’s social policy goals.<sup>252</sup>

Just as expertise was not the basis for these rules, it would be impossible to say that they represent a “scientific” response to a political question. Instead, it is apparent that they are both deeply political responses to a series of political requests. Both rulemakings have at their heart important questions of social policy, which makes them difficult to attack. As a matter of both law and technical reality, however, they represent some of the most unlikely responses to these social questions.

For example, in the E911 context, who would have imagined that new VoIP services (capable of transmitting a picture of the house where the injury has occurred, able to gather health data and doctor contact data and convey it to emergency responders) must use a 30-year-old legacy system that sharply *limits* the emergency assistance provided by the services? In the CALEA context, who would have imagined that the Commission would read the statute’s exclusion of “information services” to allow *inclusion* of those services under the CALEA mandate? And who would

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istrators with technical competence became very important during this era. Progressives believed in “the almost unlimited potential of science and administration.” *Id.* at 1131 (quoting RICHARD L. MCCORMICK, *THE PARTY PERIOD AND PUBLIC POLICY: AMERICAN POLITICS FROM THE AGE OF JACKSON TO THE PROGRESSIVE ERA* 201 (1988)). The independent agency “was envisioned as an institution capable of compensating for the shortcomings of the ‘political’ institutions of American government.” EISNER, *supra*, at 44. “Many believed that the only way to achieve effective business regulation was to establish a trade commission completely removed from the political fray.” Brefer & Edles, *supra*, at 1132-33.

252. See *infra* Part V.

have imagined that the online world, a great engine of economic growth in America, would have been subject to pre-approval by law enforcement? This may sound (and possibly is) conclusory, but it is impossible to pretend that what the FCC did with the E911 and CALEA rules was apolitical. These were hardly “scientific” results.

Past chairs of the FCC understood very clearly that the FCC was a political entity. And current Chairman Kevin Martin is undoubtedly a political actor. The chair of the FCC, who is appointed by the President and part of his political party, is the most powerful figure in the agency. Chairman Martin has close ties to the White House.<sup>253</sup> Prior to his FCC position, he served on the Bush-Cheney transition team and as general counsel for Bush’s 2000 Presidential campaign. His wife, Cathie Martin, is a former adviser to Vice President Dick Cheney. She works in the White House as a special assistant to the President for economic policy.<sup>254</sup> The Martins are extremely well-connected to the White House, and Kevin Martin is very likely to be interested in ensuring that his agency is on the same page as the Administration.

### C. Capture Theory

Absent some action by Congress, the FCC will continue to argue that it has broad delegated powers to regulate internet services. With this unlimited delegation and the FCC’s broad preemption of any state efforts to make rules about online services,<sup>255</sup> capture is relatively easy: there is only one entity to capture, and it is the FCC. This next Section deals with the capture narrative that has resulted.

#### 1. Comparison of New Capture to Old Capture

The regulations at issue here do not fit the usual capture complaint, which focuses on the capture of agencies by the very groups they are supposed to regulate. Although it is true that the Baby Bells were happy to visit regulatory burdens on their VoIP competitors, these case studies show that primarily third-party middlemen—entities that are not regulated by the FCC—captured the FCC in the E911 setting. And in the CALEA

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253. Genaro C. Armas, *Bush Names Kevin Martin New FCC Chairman*, USA TODAY, Mar. 16, 2005, [http://www.usatoday.com/news/washington/2005-03-16-martin-fcc\\_x.htm](http://www.usatoday.com/news/washington/2005-03-16-martin-fcc_x.htm).

254. *Id.*

255. *See In re Vonage Holdings Corporation for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, 19 F.C.C.R. 22,404, 22,404-05 (Nov. 12, 2004) (showcasing the FCC’s authority to “preempt an order of the Minnesota Public Utilities Commission (Minnesota Commission) [to apply] its traditional “telephone company” regulations to Vonage’s DigitalVoice service”).

context, an executive agency, the Department of Justice, captured the Commission, an independent agency.<sup>256</sup> Neither of these stories is the traditional one.

From the first, the mere existence of administrative agencies has prompted questions as to their constitutionality and accountability.<sup>257</sup> But until relatively recently—the middle of the last century—few questioned that agencies were interested in serving the public good above all else. Beginning in the 1960s, however, federal judges became concerned about capture.<sup>258</sup> The worry was that if agency officials were both given discretion to act and were protected from political accountability, they would be subject to enormous pressures by the entities they regulated to help their particular business models rather than the public interest.<sup>259</sup> The term cus-

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256. 44 U.S.C. § 3502(5) (2000) (denominating the FCC as an independent committee). The FCC has a bipartisan group of Commissioners who are appointed by the President with the advice and consent of the Senate and serve for five years. 47 U.S.C. § 154(a) (2000). The maximum number of Commissioners from any party is a number equal to the least number that would constitute a majority, and the Chairman serves as the Chief Executive Officer of the agency. For an extensive discussion of the practices of independent agencies, see Breger & Edles, *supra* note 173.

257. Mark C. Niles, *On the Hijacking of Agencies (And Airplanes): The Federal Aviation Administration, "Agency Capture," and Airline Security*, 10 AM. U. J. GENDER SOC. POL'Y & L. 381, 387 (2002) (analyzing allegation that FAA has been "captured" and noting that questions began with formation of Interstate Commerce Commission (abolished in 1995) in 1887). The idea of capture is generally assumed to stem from MARVER H. BERNSTEIN, *REGULATING BUSINESS BY INDEPENDENT COMMISSION* (1955).

258. See Merrill, *supra* note 7, at 1042 (arguing that courts' assertiveness between 1967 and 1983 is explained by concerns about capture and belief that courts could do something about it, which was replaced by later pervasive pessimism); Richard B. Stewart, *The Reformation of American Administrative Law*, 88 HARV. L. REV. 1669, 1713 (1975) ("It has become widely accepted, not only by public interest lawyers, but by academic critics, legislators, judges, and even by some agency members, that the comparative overrepresentation of regulated or client interests in the process of agency decision results in a persistent policy bias in favor of these interests.").

259. John Shepard Wiley, Jr., *A Capture Theory of Antitrust Federalism*, 99 HARV. L. REV. 713, 725-26 (1986); see MARTIN SHAPIRO, *WHO GUARDS THE GUARDIANS: JUDICIAL CONTROL OF ADMINISTRATION* 65-66 (1988) (discussing explanations of regulatory capture); Mark Seidenfeld, *A Civic Republican Justification for the Bureaucratic State*, 105 HARV. L. REV. 1511, 1565-70 (1992).

According to the capture hypothesis, instead of providing meaningful input into deliberation about the public interest, industry representatives co-opt government regulatory power in order to satisfy their private desires. Regulated entities are well organized and generally well funded, and they often have strong interests at stake, which they do not share with the polity as a whole. These entities have much to gain by ensuring that they have control over government decisionmakers and that the decisionmakers whom they do control remain in office.

tomarily used for this problem is “pathology”—that agencies were subject to the pathologies of interest groups and regulated entities. The answer given by the federal courts, at least initially, was that robust and energetic reform activities would fix the pathologies of agencies.<sup>260</sup> For example, famed D.C. Circuit Judge Skelly Wright demanded that the FCC put its ex parte contacts with industry on the public record, noting his concern “that the final shaping of the rules we are reviewing here may have been by compromise among contending industry forces, rather than by exercise of the independent discretion in the public interest the Communications Act vests in individual commissioners.”<sup>261</sup> Expansion of citizens’ standing rights and the “hard look” doctrine in the 1960s and 1970s are part of this robust reform approach, aimed at reducing the risks of capture.<sup>262</sup>

In general, agency capture is said to happen when “compact groups whose members have high per capita stakes in a controversy out-organize and out-influence larger more diffuse groups.”<sup>263</sup> Usually capture stories concern the excessive influence of regulated entities.<sup>264</sup> Thus, the academic literature contains accounts of the alleged capture of the FAA by

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*Id.* at 1565.

260. Merrill, *supra* note 7, at 1052.

261. *Home Box Office v. FCC*, 567 F.2d 9, 53 (D.C. Cir. 1977), *cert. denied*, 434 U.S. 829, *reh’g denied*, 434 U.S. 988 (1977). Wright ordered the Commission to submit a list of all ex parte communications, but fumed that “it is still not possible to determine the effect of such communications on the integrity of the rulemaking. As a result, the elaborate public discussion in the dockets here under review may be a sham and a fiction.” *Home Box Office*, 567 F.2d at 15; *cf.* *Action for Children’s Television v. FCC*, 564 F.2d 458 (D.C. Cir. 1977) (holding that ex parte prohibitions in rule-making proceedings are only applicable when competing private claims to a valuable privilege involved). In *Home Box Office*, Judge Wright ordered that the substance of all ex parte conversations be written down and filed. *Home Box Office*, 567 F.2d at 15. It is fair to say that the Intrado and Level 3 filings do not reveal much of the substance of the conversations they record. It is also fair to say that there were undoubtedly many DOJ contacts that were never reflected in public filings.

262. David B. Spence, *A Public Choice Progressivism, Continued*, 87 CORNELL L. REV. 397, 410 (2002) (sketching a history of Progressive movement and capture response).

263. Merrill, *supra* note 7, at 1053. In an important paper, George Stigler developed the “capture theory,” suggesting that “regulation is acquired by the industry and is designed and operated primarily for its benefit.” George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3, 3 (1971).

264. “In ‘captured’ agencies, agency regulators do not act as ‘arms-length’ representatives of some larger ‘public interest’ in their interaction with regulated industries. Instead, government officials . . . advance the agenda of current firms in the industry by formulating regulations that benefit or at least do not substantially burden the industry.” David Dana & Susan Koniak, *Bargaining in the Shadow of Democracy*, 148 U. PA. L. REV. 473, 497 (1999) (exploring the “regulatory contract” phenomenon).

the airline industry,<sup>265</sup> and the capture of the USDA by the meat and poultry industries.<sup>266</sup> In all of these cases, the agency is said to have lost focus on its public mission in favor of the interests of regulated private actors.

Capture theory is often criticized as imprecise and over-simplified,<sup>267</sup> both because it is difficult to say when private interests fail to coincide with the overall public interest, and because it deals insufficiently with the messy world of real politics. It is, for example, often true that agencies must depend on outside sources of information. It is also true that organized interests, like regulated firms, often provide that information. They have incorrupt reasons to do so, for they have a stake in the policy that will emerge and the resources to help.<sup>268</sup> By contrast, consumers and other unorganized interests ordinarily have stakes that are too small to justify intervening in the agency's work. There is nothing necessarily wrong with this reality.

Increasingly pessimistic public choice theory, under which all governmental decisions are seen as the result of rent-seeking behavior on the part of many different groups, has gradually subsumed capture theory.<sup>269</sup> Very roughly speaking, “[m]odern public choice theory regards all organized groups demanding services from political institutions—including not just business and producer groups, but also environmental groups, labor unions, civil rights groups, and rent control activists—as being subject to a unitary logic of collective action.”<sup>270</sup> Unlike the capture theorists who sug-

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265. Niles, *supra* note 257, at 401.

266. See generally Dion Casey, *Agency Capture: The USDA's Struggle to Pass Food Safety Regulations*, 7 KAN. J. L. & PUB. POL'Y 142 (1998).

267. Dana & Koniak, *supra* note 264, at 498 (“[I]t is possible to speak of illegitimate interest group influence only if one has a coherent normative baseline defining legitimate interest group influence.”).

268. See Richard B. Stewart, *The Discontents of Legalism: Interest Group Relations in Administrative Regulation*, 1985 WIS. L. REV. 655, 663-65 (suggesting that constructive relationships between regulators and regulated industry can benefit society, avoid litigation, and do not represent capture).

269. See, e.g., Daniel A. Farber & Philip P. Frickey, *The Jurisprudence of Public Choice*, 65 TEX. L. REV. 873, 883-906 (1987). Roughly, public choice is the “application of the economist's methods to the political scientist's subject.” DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* 1 (1991); see also Daniel A. Farber & Philip P. Frickey, *Foreword: Positive Political Theory in the Nineties*, 80 GEO. L.J. 457, 458-463 (1992) (defining public choice as using economics to focus on the maximizing behavior of rational beings). Not all administrative law scholars accept the “homo economicus” view that public choice theorists posit. See, e.g., Abner J. Mikva, *Foreword*, 74 VA. L. REV. 167 (1988) (condemning view of human nature professed by public choice analyses).

270. Merrill, *supra* note 7, at 1069; see also Jody Freeman, *The Private Role in Public Governance*, 75 N.Y.U. L. REV. 543, 561 (2000) (“Public choice theory understands



gested reforms of agency processes to protect against capture, early public choice theorists did not necessarily propose a path forward; rather, they aimed to demonstrate that regulatory decisions were inherently biased, and that market-mimicking agency actions should usefully be replaced by markets themselves or never delegated in the first place.<sup>271</sup> Early public choice scholarship perceived reform efforts as impossible, and the simple libertarian responded by pulling up stakes and removing discretion from administrative agencies.

In the present day, the delegation debate continues unabated. The enormous world of public choice scholarship has become a rich one that is no longer simply based on seeing venal motives in every step by a regulator. Today, “public choice” can mean anything from modeling complex systems inside agency decision making to empirically examining influence across a wide range of decisions by a wide range of institutional actors.

My contribution to the enormous capture/public choice literature is modest. I am providing a live case study, showing that prior capture theories may have been too simple in their focus on regulated firms.<sup>272</sup> Here, the capturing interests were neither regulated entities nor, in the case of the E911 rule, particularly visible. But both law enforcement and E911 outsourced services firms are intensely concentrated interests (as opposed to diversified public interests) that can claim expertise and devote resources to push for their versions of regulation. And both groups likely received better treatment from the FCC in these rules than they could have

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administrative decision as the product of interest group pressure brought to bear on bureaucrats seeking rewards such as job security, enhanced authority, or the favor of powerful legislators upon whom the agency depends . . . treating agency outcomes as products of interest group appeals to individual bureaucrats’ preferences.”)

271. See, e.g., David B. Spence & Frank Cross, *A Public Choice Case for the Administrative State*, 89 GEO. L.J. 97, 98-99 (2000) (citing scholars who feel public choice is hostile to delegation); JERRY L. MASHAW, GREED, CHAOS, & GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW 6-25 (1997).

272. I am not the first to recognize that unregulated private firms may have captured an agency’s decision making process. In a 1993 article, Bradford Mank suggested that contractors hired by the EPA to conduct Superfund cleanup activities had formed a “dependent bureaucracy that fed on the program’s structural incentives,” a conclusion that had earlier been reached by the Congressional Office of Technology Assessment. See Bradford C. Mank, *Superfund Contractors and Agency Capture*, 2 N.Y.U. ENVTL. L.J. 34, 60-63, 80 (1993). Mank noted that James Q. Wilson had argued that unregulated interest groups “have reason to develop client relationships” with agencies. *Id.* at 61 (citing JAMES Q. WILSON, BUREAUCRACY: WHAT GOVERNMENT AGENCIES DO AND WHY THEY DO IT 83-85 (1990), which discusses academic scientists’ relationship with the National Academy of Sciences and National Science Foundation). Mank suggested limiting contractor functions and strengthening EPA enforcement efforts. See *id.* at 76-77.

from Congress. My assertion is that, in both the E911 and CALEA contexts, rules were written that benefited an identifiably smaller “public” interest at the expense of a larger, but more diffuse, one: the interest in continued online innovation.

In the E911 context, a largely invisible vendor, Intrado, making opaque “ex parte” filings, orchestrated a rule adoption that assured the vendor’s continued dominance and relevance. Without even giving VoIP providers the time to show that alternative E911 schemes could have provided better (more modern, more informative) results for consumers, the Commission forced them to interconnect with hardware controlled almost completely by that invisible vendor, at a cost that vendor could control. Failure to connect in this fashion may force VoIP providers to cut off their customers, creating unprecedented, Commission-approved market constraints.

In the CALEA context, an interest group in the form of another sister agency, the Department of Justice, was able to obtain rules that it likely could not have gotten from Congress. It is likely that there were broad ex parte contacts between DOJ and FCC before DOJ sought a petition for certiorari in the *Brand X* case.<sup>273</sup> The DOJ was even able to have the FCC set a hard eighteen-month deadline for compliance without any indication of what compliance meant. And, as in the E911 context, innovation is very likely to suffer: law enforcement appears to be seeking pre-launch approval of any potentially covered application or connection, to ensure that desired data fields are available to them.

Where an agency is in thrall to a sister agency, and that sister agency is asserting itself as a single, governmental audience for a standard that will have dramatic effects on innovation, neither traditional “capture” nor more recent “public choice” theory fits the situation. Traditional capture theory never envisioned that the capturer would be another government agency. Rather, the enemies of the public interest were viewed as business interests, with unions and civil society viewed tacitly as carrying out the public interest themselves in their interactions with agencies. Under capture theory, a sister agency would certainly have been viewed as having the public interest at heart, and no “fixes” would have been called for. As for public choice theory, there is no market-mimicking behavior being approximated

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273. “A reliance on impermissible factors renders an agency decision arbitrary.” Breger & Edles, *supra* note 173, at 1193 (citing *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 46 (1983), which concluded agency’s decision to rescind rule was arbitrary and capricious). Because these contacts would have been related to ongoing litigation rather than an open rulemaking, nothing would have been made public about them.

by the FCC; indeed, because there is no competition for the government's desire for information, no "market" forces can possibly operate to set the scope of coverage and level of compliance. So public choice criticism will not help; there is no "market" to which to devolve the creation of the standard.

## 2. *The Limits of Traditional Answers to Capture*

The traditional answer to capture problems has been procedural. For example, Judge Skelly Wright in *Home Box Office* thought that having ex parte filings put on the record might help.<sup>274</sup> But in the E911 and CALEA settings, even had there been more information about the respective roles of third party vendors or law enforcement, there are no other actors involved that have the resources and concentrated attention to act on these disclosures. The internet is useful in spreading information about what is going on at the FCC, but it cannot embarrass the FCC out of this kind of action; the FCC would likely see itself as simply having been convinced by the most forcefully, articulately, and expertly advanced set of considerations about technical matters. Additionally, the leader of the FCC will certainly not be embarrassed about forwarding his Administration's objectives.

Similarly, strengthening "revolving door" prohibitions (keeping former staffers from lobbying their agency for a longer period of time) are unlikely to help. The problems in these rulemakings are not a matter of corruption or of individual agency actors seeking personal advantage. The problems stem from an absence of organizational structures that have the resources and incentives to fight for the public good when that good is innovation. Thus, even if sunlight and anti-corruption rules might help prevent capture by the regulated industry itself, there will still be capture by the potential beneficiaries of a central rule—even when those beneficiaries are other arms of government or vendors who can help industry comply with the rule.

## V. BETTER WAYS FORWARD

Many inextricably intertwined factors have led the FCC to assert social policy control over internet services without translating those policies for the internet age. Commission staff members, although operating with the best will in the world, may have been blinded by their telephony mindsets to the implications of the Commission's current trajectory. Capture by third party vendors and law enforcement may have been difficult to avoid,

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274. See *Home Box Office*, 567 F.2d at 17.

given the intensity of their involvement and their superior technical resources. And lobbying efforts by current (old-style) communications providers have been extraordinary: between 1998 and 2004, the communications industry as a whole (including broadcast) spent \$760 million to affect the work of the Commission and Congress, and the cable and telephone industries alone spent \$100 million in 2004.<sup>275</sup> By contrast, the oil and gas industry spent almost \$400 million between 1998 and 2004 on lobbying.<sup>276</sup> Since 1997, about 400 FCC staff and congressional employees have gone to work in the “companies they used to regulate.”<sup>277</sup> Both the communications industry and law enforcement authorities have great influence with key FCC staff. At the same time, the FCC’s internal resources are constrained.<sup>278</sup>

Thus, the only institution that can help here is Congress. Because there are so many more players who can intervene in any given legislative matter, and so many more independent leaders who can have a point of view, it takes much less force to block something in Congress than at the FCC. Congress, unlike the FCC, has no institutional imperative to come up with a particular solution that will make either incumbent telephone companies or law enforcement happy. Indeed, if Congress had decided, in advance, that we needed a single rule for both E911 and CALEA, it would have in effect licensed capture of the political process to the group with most concentrated and motivating interests. Because Congress arguably did not make such a delegation, we can consider afresh whether a delegation of the powers the FCC asserted in the E911 and CALEA Orders is necessary.

Provision of emergency services and assistance to law enforcement have in the past been deemed by Congress to be worthy social goals for telephony.<sup>279</sup> Now that more of life is migrating online, it must be deter-

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275. See CENTER FOR PUBLIC INTEGRITY STUDY, NETWORKS OF INFLUENCE: THE POLITICAL POWER OF THE COMMUNICATIONS INDUSTRY (2004) [hereinafter CENTER FOR PUBLIC INTEGRITY STUDY], <http://www.publicintegrity.org/telecom/report.aspx?aid=405>. The cable TV industry has spent \$37.4 million on federal political contributions since 1990, according to the Center for Responsive Politics. That is dwarfed by the \$102 million doled out by phone companies in that period. Reinhardt Krause, *In Telecom Lobbying, It's the Bells vs. Cable; AT&T, MCI Deals Near; With most long-distance carriers acquired, it's a new legislative landscape*, INVESTOR'S BUSINESS DAILY, Oct. 19, 2005.

276. CENTER FOR PUBLIC INTEGRITY STUDY, *supra* note 275.

277. *Id.*

278. In 1999, the FCC established a Technical Advisory Council to assist it with questions requiring technical expertise. Press Release, FCC, FCC Announces Formation of Technological Advisory Council (Apr. 2, 1999), available at <http://www.merit.edu/mail.archives/mjts/1999-04/msg00010.html>.

279. See, e.g., 47 U.S.C. §§ 228, 229, 254, 255, 258 (2000) (requiring CALEA, universal service, access for persons with disabilities, and anti-slamming).

mined whether these same social goals are appropriate for the internet. As discussed above, the FCC asserted power to implement these social goals online through regulatory back doors based on either its very broad understanding of its implicit “ancillary” powers under the Telecommunications Act or a willful misreading of CALEA. The Commission is no doubt straying beyond its statutory powers, and the lawsuits that have been filed likely will be successful. In order to avoid the capture described in this Article, Congress should decide what list of social policies is the right one for the internet, and how any such policies should be implemented in the online environment.<sup>280</sup>

If we assume that emergency service support should continue to be relevant for phones, that consumers will continue to expect that 911 will function for phones, and that phones may use either circuit-switched or packet-switched technologies, then Congress needs to work on the question of “What is a phone?” Perhaps only those things that *are* identified as phones (for example, in special colors, marked “PHONE,” and using traditional handsets) should be mandated to have complete E911 service. Through public service campaigns and other marketing efforts, Congress could make very clear that the thing that is a “PHONE” has 911 access, and “PHONES” could provide quite elaborate and innovative services on top of merely giving access to location information. This would not preclude other applications, other things that are not “PHONES,” from having extensive safety features as a voluntary matter. This focus on defining “PHONES” would serve consumer expectations, and would keep new technologies from being forced to use an antiquated legacy system.

As for CALEA, it is not clear why law enforcement should be entitled to effectively force an amendment to that law—an amendment covering what they obtained through the FCC’s good offices. Congress should, at the most, bless law enforcement’s ability to, with proper legal authorization, gain access to streams of information that they must parse to obtain what they are authorized to read. There is no good policy reason to require pre-approval of all VoIP applications by law enforcement. First, the costs of such a step far outweigh any possible benefits. Second, there is no principled line between VoIP applications and any other online application, because a bit is a bit. Congress should state clearly that CALEA is for “PHONES.” Taking the route requested by law enforcement of extending CALEA to “interconnected VoIP” and broadband access will lead to another outsourced vendor capture problem when VeriSign claims it can as-

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280. Congress should also consider exercising its authority to circumscribe what administrative remedies may be called for by the Agency, and should state clearly where the Agency’s authority begins and ends.

sist all possible actors with compliance. On a meta-level, it seems clear that law enforcement believes it has authority to, carnivore-like, inhale all possible data and parse it.<sup>281</sup> If it can do that, it does not need applications to be designed in advance so as to be easily tappable.

There are better, more internet-minded ways for law enforcement to obtain the information it wants pursuant to lawful wiretap orders. Rather than requiring centralized, FBI approval of the design of all online applications prior to launch to ensure that they are easy to tap, ISPs could make streams of data available that could be accessed by law enforcement only following issuance of a subpoena or other judicial order.<sup>282</sup> Rather than forcing the standardization of data, law enforcement could learn how to understand traffic associated with particular people—already located by ISPs for them—once a subpoena has issued. Furthermore, it may be wise to limit law enforcement’s self-restraint by continuing to require it to access data from the edge of the network, instead of trusting law enforcement’s overwhelming negotiating strength with ISPs for a path to the center of the network.

Law enforcement’s appetite for data is insatiable, and we need to find some internet-minded response to its requests—preferably one that balances respect for the rule of law against concerns about innovation. The internet, after all, provides law enforcement with potentially better, more detailed, and more quickly-available information than it could ever have obtained offline. But law enforcement is causing the FCC to apply telephony-world rules and assumptions to a changed IP world, with no regard to the consequences.

## VI. CONCLUSION

The E911 and CALEA rulemakings show that it is inappropriate to allow a toxic combination of broad, unquestioned delegation, lack of political accountability, resulting capture by concentrated interests (vendors or law enforcement), and questionable claims of “expertise” to create a single

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281. Eric Lichtblau & James Risen, *Spy Agency Mined Vast Data Trove, Officials Report*, N.Y. TIMES, Dec. 24, 2005, at A1 (“National Security Agency has traced and analyzed large volumes of telephone and internet communications flowing into and out of the United States as part of the eavesdropping program that President Bush approved.”).

282. Indeed, the DOJ has said that it is interested in having all ISPs store information for its use, and it is more than conceivable that the FCC could use its newly-enhanced “ancillary jurisdiction” over ISPs to ensure that this happens. Declan McCullagh, *Your ISP As Net Watchdog*, CNET NEWS.COM, June 16, 2005, [http://news.com.com/Your+ISP+as+Net+watchdog/2100-1028\\_3-5748649.html](http://news.com.com/Your+ISP+as+Net+watchdog/2100-1028_3-5748649.html); see *supra* Section IV.A (discussing ancillary jurisdiction).

rule about how intangible online services may be offered. It is far too easy for old technology players, some of them invisible, to take over the rule-making process at the FCC.

These are just the first two rulemakings. There will undoubtedly be many more, and they will likely have similar effects on innovation. FCC regulation of the internet is just emerging, and governments all around the world are following suit. Thus, the U.S. has an opportunity to take the lead in self-restraint, but Congress will need to be thoughtful and acknowledge the differences between telephony and the internet—something it often seems to have trouble doing. There is very little information available to policymakers about how treating the internet as a telephone network will affect our future. There is ample latitude for work on why (or whether) adopting an internet mindset—encouraging decentralized, alternative ways to reach agreed social goals—will provide a more encouraging framework for economic development. We have time to consider the potential troubles that will be created if this kind of alternative approach is adopted. The first step should be for Congress to re-examine the enormous power the FCC is asserting over all possible online activities. We should not risk our collective online future by continuing to stumble forward as we have thus far.

For online companies, the need to step up as policy players and lead the public along a new trajectory poses an enormous challenge. Very few companies seem willing to take on the FCC's appetite for internet regulation, for fear of being branded anti-law enforcement, anti-consumer, pro-pornography, or some other headline-grabbing attribute. But the importance of the internet's future should far outweigh the short-term attractiveness of making deals with cable and telephone companies.

The FCC needs to recognize that it has in many senses been captured by its own history. It should not pretend to be "the internet agency," and it does not have the capacity to draw lines that will make sense in this quickly-evolving set of circumstances. Indeed, no one does. Technical mandates and requirements based on legacy understandings and technologies are doomed to be unsuccessful and to serve only the incumbents and outsourced compliance vendors who demanded them in the first place. The regulators need to take the time to evaluate, within the sharply-defined mandate handed them by Congress, how to address the social policies in which they are interested. It may be that a single rule is always inappropriate for the online world.

The great advantage of understanding how the internet works is that this network of networks finally makes possible the kind of collaboration and self-determination that is the stuff of human dreams. The internet en-

courages economic development and human empowerment on many levels. To cut off all of these benefits in favor of today's focus on "security" or "safety" would be unfortunate and wholly short-sighted. In an increasingly flat world, U.S. internet users gain few benefits from the kinds of regulatory activities described in this Article. The sooner we recognize this in policy as well as in reality, the better off the United States economy will be.

That a crucial set of misunderstandings, pathologies, and incorrect assumptions has led us down a destructive path does not mean that we should not make an effort to correct them. Awareness of the current, yet largely unnoticed, trajectory of the FCC presents a fascinating opportunity that could allow us, as a nation, to lead the world in encouraging enormous innovation, creative growth, and human collaboration. It is essential that we try.