

## Digital Crossroads: American Telecommunications Policy in the Internet Age

By Jonathan E. Nuechterlein and Philip J. Weiser  
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When Congress set out to regulate the telecommunications industry in the 1930s, it simply had to concern itself with two separate and distinct technologies: telephone and radio. In the 70 years since the passage of the Communications Act of 1934,<sup>1</sup> the industry has changed dramatically as new technologies have emerged. Once distinct technologies now compete with each other and the economic structure of each technology has changed dramatically. In the last 25 years, the telephone system has moved from a market dominated by AT&T to a more fractured market that may soon see AT&T no longer competing for residential long distance customers.<sup>2</sup> Cable television and satellite providers have cemented their positions providing television to approximately 85% of the U.S. population<sup>3</sup> and are now expanding their services to include voice and data. Technologies in computers and wireless transmissions have come into their own; these technologies have contributed to many of these radical changes and promise more in the future. In *Digital Crossroads: American Telecommunications Policy in the Internet Age*, Jonathan E. Nuechterlein<sup>4</sup> and Philip J. Weiser<sup>5</sup> provide a surprisingly accessible analysis of

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<sup>1</sup> 48 Stat. 1064 (1934) (codified as amended in sections of 47 U.S.C.).

<sup>2</sup> JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS* 5-6, 108 (2005). It remains to be seen how AT&T's merger with SBC and its pending merger with BellSouth will affect its business strategies.

<sup>3</sup> *Id.* at 405.

<sup>4</sup> Nuechterlein served as an assistant to the Solicitor General and Deputy General Counsel to the Federal Communications Commission. He is currently a partner at Wilmer Cutler Pickering Hale and Dorr LLP. *Jonathan E. Nuechterlein*, [http://www.wilmerhale.com/jon\\_nuechterlein/](http://www.wilmerhale.com/jon_nuechterlein/) (last visited Jan. 5, 2006).

<sup>5</sup> Weiser served in the Antitrust Division of the Department of Justice during the Clinton administration and is currently Associate Professor and Executive Director of the Silicon Flatirons Telecommunications Program at the

the technological, economic and legal factors that shape this arcane field and suggest the regulatory challenges that new technologies pose.

Nuechterlein and Weiser's explicit thesis is that "facilities-based competition will warrant comprehensive deregulation of the telecommunications industry over time, but that deregulating it now, completely and instantaneously, would produce serious market failures and harm consumers."<sup>6</sup> While the second part of the thesis is not given substantial coverage, the need for eventual deregulation is covered thoroughly. The key driver to this thesis is the aforementioned convergence of communications through the use of digital technologies, most notably packet switched networks that allow for voice, data, and video to travel over the same wire (or fiber optic strand).<sup>7</sup> This poses two related challenges. First, convergence represents a paradigm shift from the "silo based" regulation scheme under the Communications Act of 1934.<sup>8</sup> Under this approach, each underlying technology (be it telephone wire, coaxial cable, wireless communications, etc.) is regulated in a distinct manner from other (sometimes competing) technologies. (Contrast this with a regulatory scheme that treated all like services, e.g. voice, the same regardless of whether the service reached a customer by telephone wire, cable, the Internet or wireless transmissions.) This results in different regulation of voice and data services depending on whether they reach your house via telephone lines or coaxial cable. This disparate treatment of like technologies is particularly salient for incumbent local exchange carriers

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University of Colorado School of Law. *Philip J. Weiser*, <http://lawweb.colorado.edu/profiles/profile.jsp?id=62> (last visited Jan. 5, 2006).

<sup>6</sup> NUECHTERLEIN & WEISER, *supra* note 2, at 3-4.

<sup>7</sup> In a packet switched network, messages are cut into small pieces that are routed independently through the network before being reassembled at the end terminal. This contrasts with a circuit switched network such as the publicly switched telephone network that dedicates a series of wires to connect you to another caller when you dial their phone number (causing the entire transmission to follow the same path). *See, e.g.*, NUECHTERLEIN & WEISER, *supra* note 2, at 39-45. *See also* ANDREW S. TANNENBAUM, *COMPUTER NETWORKS* § 2.5.5 (4th ed. 2003).

<sup>8</sup> Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECH. L.J. 1276 (2004).

(ILECs) such as Verizon and Qwest. Under the Telecommunications Act of 1996,<sup>9</sup> these ILECs retain their traditional common carriage requirements,<sup>10</sup> while providing substantial access to their systems at cost to competitors who are not subject to the same requirements. The ability of competitors to cherry pick the ILECs' most profitable customers along with the effects of Voice over Internet Protocol (VoIP)<sup>11</sup> on the ILECs' traditional cross subsidies threatens the long term financial viability of these companies.

The authors begin with an excellent explanation of economic concepts such as “network effects” as well as economies of scale and density.<sup>12</sup> Economics are necessarily interspersed throughout the book because of the unique structure of the telecommunications industry and the strong influence that antitrust law has had on its development through state and federal regulation of telephone carriers and the break up of AT&T.<sup>13</sup>

Equally well explained are the technical concepts needed to understand why the telecommunications system has historically been structured the way that it has, changes being

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<sup>9</sup> Pub. L. No. 104-104, 110 Stat. 56 (1996) (codified as amended in scattered sections of 47 U.S.C.).

<sup>10</sup> A common carrier may not discriminate between customers, but rather must accept a new customer if the set rate is paid. In contrast, private carriers do not carry an obligation to serve all customers, including the least profitable. BLACK'S LAW DICTIONARY 205 (7th ed. 1999).

<sup>11</sup> VoIP providers such as Vonage or Skype route a portion or all of a telephone call over the Internet by slicing the conversation into packets, as opposed to sending the call over through the telephone circuits. *See generally supra* note 7; Stephen E. Blythe, *The Regulation of Voice-Over-Internet-Protocol in the United States, the European Union, and the United Kingdom*, 5 J. HIGH TECH. L. 161 (2005).

<sup>12</sup> NUECHTERLEIN & WEISER, *supra* note 2, at 4-5.

<sup>13</sup> Interestingly, antitrust concerns have changed with the increase competition from cable, wireless and VoIP providers. For example, SBC acquired AT&T in a deal that closed on November 18, 2005. *4th Quarter 2005, INVESTOR BRIEFING (AT&T/Investor Relations, San Antonio, Tex.)*, Jan. 26, 2006, at 1, available at [http://att.sbc.com/Investor/Financial/Earning\\_Info/docs/4Q\\_05\\_IB\\_FINAL.pdf](http://att.sbc.com/Investor/Financial/Earning_Info/docs/4Q_05_IB_FINAL.pdf). The combined company recently announced a merger with BellSouth on March 5, 2006. Ken Belson, *Huge Phone Deal Seeks to Thwart Smaller Rivals*, N.Y. TIMES, Mar. 6, 2006, at A1. Verizon had previously purchased MCI (not a Baby Bell, but AT&T's major long distance rival since the 1960's). *Id.* The AT&T-BellSouth deal was not expected to face significant antitrust problems because of increase competition in the telephone market. *E.g.* Stephen Labaton, *Is Antitrust No Longer the Issue?*, N.Y. TIMES, March 7, 2006, at C1; Editorial, *Ma Bell and Her Babies: The AT&T/BellSouth Merger Ought to Face One Proviso*, FIN. TIMES, Mar. 7, 2006, at 16. *See generally* Philip J. Weiser, Editorial, *The Behemoth is Dead. Long Live the Behemoth*, WASH. POST, Feb. 27, 2005, at B03.

brought about by new technology, and challenges that new regulations impose.<sup>14</sup> These technologies range from the somewhat more familiar concepts such as the differences between analog and digital transmissions to more complex but equally important concepts such as Shannon's Law (defining the capacity of a "noisy" channel).

After setting foundations in these areas, the authors move to a service by service discussion of the economic, technical and regulatory issues endemic to each offering. "Wireline telecommunications" (namely telephony, but also including data services through Digital Subscriber Lines (DSL)) receives the most attention, which is logical because of its extensive regulation scheme and history. However, radio and television are given significant treatment in due course. The FCC's role in promoting technical standards is explored through a case study of the transition to digital television broadcasting.

Nuechterlein and Weiser's analysis is particularly strong in their discussion of spectrum allocation. After an explanation of why the FCC has historically allocated frequency bands for a host of applications, the authors make a cogent argument for why this "mother may I?" regulation is no longer necessary.<sup>15</sup> The chapter is concluded with a comparison of the two regulatory schemes that will likely influence spectrum allocation in a future free market system: "property rights" and "commons." The property rights model draws from the argument that with well-defined and low transaction costs, the free market will generally allocate resources to their most efficient use.<sup>16</sup> Under such a system, a television station would be able to sell all or part of its broadcast spectrum to a wireless carrier without regulatory oversight, thus allocating

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<sup>14</sup> See, e.g., NUECHTERLEIN & WEISER, *supra* note 2, at 285-87 (discussing challenges that wireline telephone carriers face in implementing number portability requirements required by the FCC).

<sup>15</sup> NUECHTERLEIN & WEISER, *supra* note 2, at 239, *quoting* Michael K. Powell, Broadband Migration III: New Directions in Wireless Policy (Oct. 30, 2002), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-227944A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-227944A1.pdf).

<sup>16</sup> *Id.* at 242-243. See also Ronald Coase, *The Federal Communications Commission*, 2 J. LAW & ECON. 1 (1959).

relatively underutilized frequencies to more productive use. Alternatively, the commons model would do away with licensing for ranges of frequencies and allow any person or entity to make use of the frequency, “just as anyone is free to exploit Central Park simultaneously...”<sup>17</sup>

The book concludes with an examination of the FCC’s role in the future. While acknowledging that the FCC has outgrown its original purpose, the authors suggest that the FCC is the “least worst” means of regulating the telecommunications industry, largely because of the immense amount of knowledge that the Commission has developed. Given the inability of the Congress to pass substantial reforms because of the large political influence wielded by the various industry sectors and the desire of courts to avoid making policy decisions, the author’s conclusion seems correct.

Appendix A contains a more in depth and rather interesting discussion of how ILECs are required to price network elements that they are required to sell access to under the 1996 Act. Appendix B discusses the how FCC enforcement mechanisms were modified under the 1996 Act. The text also contains 30 pages of selected sections of the Communications Act of 1934, as amended. While statutes clearly play a major role in telecommunications regulation, this section added little to the book. This is because the authors explained the relevant provisions in a clear and lucid manner that leaves the reader with little need to look to the convoluted language of the Communications Act (which are of course subject to change at any moment).

A discussion of *à la carte* cable television programming is absent from *Digital Crossroads*. This is unfortunate because the current cable scheme is rife with cross subsidies (for example, customers who only watch ESPN help support less popular channels). Given the

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<sup>17</sup> NUECHTERLEIN & WEISER, *supra* note 2, at 251.

increased discussion of *à la carte* programming,<sup>18</sup> the issue could use some of the cogent economic analysis present throughout the book.

As with any legal text, *Digital Crossroads* faces a danger of becoming stale with each new court decision. Indeed, the concern is particularly pressing because the ambiguous nature of the Telecommunications Act of 1996 and the availability of judicial review of FCC decisions have given rise to a raft of litigation.<sup>19</sup> However, court rulings subsequent to publication have not weakened the underlying premises of this book because the authors take care to focus on the principles that underlie a host of possible regulatory schemes.<sup>20</sup>

By and large, *Digital Crossroads* presents a comprehensive yet accessible picture of the regulatory issues surrounding the telecommunications industry. In doing so, the authors fulfill their goal of a book with sufficient depth for lawyers and law students, but that should also appeal to a non-legal audience. While the law will change over time, Nuechterlein and Weiser's thorough policy discussions will stay relevant well into the future.

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<sup>18</sup> See Ken Belson, *F.C.C. Sees Cable Savings in à la Carte*, N.Y. TIMES, Feb. 10, 2006, at C1 (FCC Chairman Kevin Martin has come out strongly in favor of *à la carte* programming.); Matthew Gilbert, *Ordering a la carte would make cable a tastier treat*, BOSTON GLOBE, Jan. 5, 2006, at F1.

<sup>19</sup> Justice Scalia has written, "It would be gross understatement to say that 1996 Act is not a model of clarity." *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 397 (1999).

<sup>20</sup> *Brand X Internet Services v. F.C.C.*, 345 F.3d 1120 (2003), *rev'd sub nom. National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S.Ct. 2688 (2005) represented an oddity in administrative law in which the 9<sup>th</sup> Circuit applied its prior interpretation of the 1996 Act (made in absence of Commission action) to strike down a contrary and subsequent FCC determination. The Supreme Court ruled that this was inappropriate under *Chevron USA Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

The Supreme Court denied five petitions for *certiorari* in *Prometheus Radio Project v. FCC*, 373 F.3d 372 (3d Cir. 2004), leaving in place the Third Circuit's rejection of the FCC's plan to loosen restrictions on media ownership.