
PREFACE

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The high standard of scholarship that marks the reputation of the CommLaw Conspectus is evident again in this issue. From cybercrime and the criminal rules that apply, to invisible bits circulating worldwide on the Internet, to the rules that govern the nearly invisible bits of metal we toss into the vast expanse of outer space to circle the globe, this issue reminds us of the growing role of communications in our everyday lives.

Common to the prefaces appearing in this law journal over the last few years are references to revolutionary change in information services and worldwide communications. The digitizing of information and its transport has produced an astonishing array of end-user technologies and delivery mechanisms that just a short time ago was the stuff of science fiction. The personal computer, HDTV, cell phones, the Internet, satellite services and wireless networks of all sorts are just a few of the products and services that digital technology has delivered. Recently, the PC decade yielded to the Web-based services decade and most new services and intellectual property will be delivered over the Web, including streaming video, music, IP telephony and advanced e-commerce applications. These services will be digital, and will increasingly converge in reliance on Internet protocols and high-speed Internet connec-

tions that deliver intellectual property to a vast array of intelligent or semi-intelligent edge devices. The rapid convergence is not only across services and platforms, but also between communications and computing technologies.

These interrelated phenomena are forcing the Federal Communications Commission (“Commission”) to confront the significant and unresolved questions of intellectual property, First Amendment and competition policy.¹ The Commission was created about 70 years ago largely to regulate radio and telephones and to ensure its licensees served the “public interest, convenience and necessity.” That mandate has evolved into many rules and developed its own common law contours as it expanded to cover new services and technologies. It was significantly augmented, or altered, by the pro-competition mandates of the Telecommunications Act of 1996. The proper coordination of this web of rules, case law and statutory provisions is now being explored by the Commission in the context of the broadband marketplace.² The Commission has said that convergence of formerly distinct services into digital platforms utilizing Internet protocols has created the potential for competition among and between facilities-based competitors like that between “trucks, trains, and planes in transportation,”³ and

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¹ See, e.g., *In re* 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, *Memorandum Opinion and Order*, 16 FCC Rcd. 6547 (2001) (imposing conditions on proprietary network and proprietary code).

² See, e.g., *In re* Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Universal Service Obligations of Broadband Providers; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review—Review of Computer III and ONA Safeguards and Re-

quirements, *Notice of Proposed Rulemaking*, in CC Dkt. Nos. 95-20, 98-10, FCC 02-42 (Feb. 15, 2002) [hereinafter *Wireline Broadband NPRM*]; *In re* Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, *Notice of Inquiry*, 15 FCC Rcd. 19,287 (2000) [hereinafter *Cable Modem Notice*]; *In re* Review of Regulatory Requirements for Incumbent LEC Broadband Services; SBC Petition for Expedited Ruling That it is Non-Dominant in its Provision of Advanced Services and for Forbearance From Dominant Carrier Regulation of These Services, *Notice of Proposed Rulemaking*, FCC 01-360, 16 FCC Rcd. 22,745 (Dec. 20, 2001) [hereinafter *Incumbent LEC Broadband Notice*].

³ See *In re* Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, *Report*, 14 FCC Rcd 2398, para.

more recently that, “[t]he widespread deployment of broadband infrastructure has become the central communications policy objective of the day.”⁴

To be sure, transporting and delivering digitized intellectual property and services depends on networks that are secure, interoperable, interconnected and share open interfaces between their logical layers. In one picture, receipt and highest use of digitized intellectual property, including Web-based services, will require multiple intelligent edge devices that are controlled by the end user (one of which is the PC) and that rely upon standardized transport-layer protocols to ensure interoperability between applications is not lost during transport. In a second picture, sometimes referred to as the “movement off the desktop,” the edge device will be “dumb” and offer increased flexibility and choice to consumers because it will not require much computational capability. The most significant computing functions will be performed, not on the device, but on servers connected to such devices through the Internet. In other words, the intelligence will be someplace in a chain of functionality accessed over the Internet. In this version of the future, the intelligence is neither at the core of the transport network (like the old phone system) nor is it really at the edge (like the Internet with PCs at the nodes). The consumer may not need a PC with a large hard drive and powerful microprocessor at all. Common devices, such as cell phones or PDAs, with very basic operating systems and an Internet browser will allow the consumer to perform many of the functions today associated only with a PC.

Currently, the end-to-end architecture of the Internet with its intelligence in its edge devices like the PC, and its use of common and open pro-

ocols, is widely discussed as having created a kind of open, informational commons.⁵ Some contend that the growth of the Internet as a communications space or tool fulfilled the promise of the Commission’s 1968 *Carterfone* decision.⁶ *Carterfone* was the beginning of the end for the telephone network owner’s control over the network edge devices, and it is widely believed that the ruling led to the widespread deployment and use of the modem. In addition, the Commission’s *Computer Inquiries*⁷ are widely recognized as having allowed the marriage of computers with phones to flourish with one key development being what we know today as the Internet Service Provider.

As the Commission attempts to devise the first principles of the broadband marketspace, questions arise whether the openness and functionality of the Net we know today will continue to flourish. One pressing question is whether the explicit reconsideration of the *Computer Inquiries* in the *Wireline Broadband NPRM*, combined with the shift “off the desktop” and towards distributing data processing functionality or web services across different servers *within* the transport network, will lead to a regulatory approach that amounts to reaching through the end of the network to retrieve the functionality and control of the edge device for the network owner. The Commission recently stated their intention to “strive to develop an analytical framework that is consistent, to the extent possible, across multiple platforms. Our regulatory framework will derive from the unique attributes of broadband Internet access.”⁸ They explained the basis for such a new regulatory approach:

We believe that the statute and our precedent suggest a functional approach, focusing on the nature of the service provided to consumers, rather than one that focuses on the technical attributes of the underlying ar-

48 (1999).

⁴ See *Wireline Broadband NPRM*, *supra* note 2, at para. 1.

⁵ See, e.g., Yochai Benkler, *Property, Commons, and the First Amendment: Towards a Core Common Infrastructure*, at <http://www.law.nyu.edu/benkler/whitepaper.pdf> (Mar. 2001) (White Paper for the Brennan Center for Justice at NYU School of Law); see generally LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 26-48 (2001).

⁶ *In re Use of the Carterfone Device in Message Toll Telephone Service; In re Thomas F. Carter and Carter Electronics Corp., Dallas, Tes. (Complainants), v. American Telephone & Telegraph Co., Associated Bell System Companies, Southwestern Bell Telephone Co., and General Telephone Co. of the Southwest (Defendants)*, 13 F.C.C.2d 420 (1968).

⁷ See *In re Regulatory and Policy Problems Presented by the Interdependence of Computer and Communication Services and Facilities*, Docket No. 16979, *Notice of Inquiry*, 7 F.C.C.2d 11 (1966) [hereinafter *Computer I*]; *In re Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry)*, *Final Decision*, 77 F.C.C.2d 384 (1980) [hereinafter *Computer II*]; *In re Amendment of Section 64.702 of the Commission’s Rules and Regulations (Third Computer Inquiry)*; and *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Thereof; Communications Protocols under Section 64.702 of the Commission’s Rules and Regulations, Report and Order*, 104 F.C.C.2d 958 (1986) [hereinafter *Computer III*].

⁸ *Wireline Broadband NPRM*, *supra* note 2, at para. 6.

chitecture. For this reason, we expressly recognize that a consistent analytical framework may not lead to identical regulatory models across platforms.⁹

Because wireline broadband Internet access services fuse communications power with powerful computer capabilities and content, these services appear to fall within the class of services that the Commission has traditionally identified as “information services,” which blend communications with computer processing.¹⁰

If the new version of the old “dumb” telephone is a “dumb” edge device, and it delivers broadband services that are treated largely as “information services,” will it have an effect on the extraordinary innovation we have seen at the network edge in this early Internet era? Will the effect of business models that migrate the functionality of the edge back into the network from today’s PCs be that network owners will regain control over aspects of the Internet that many believe should be left at the edge, in the hands of users? Will the “unique attributes” of broadband access be cited to deconstruct what some have noted may be the most democratically disruptive technology in the history of the world?¹¹

These questions are peculiarly important to any overall broadband policy regime because communications policy makers cannot ignore that the tremendous economic growth in the U.S. during the 1990s arose in large part from expansion in the U.S. copyright industries. And in turn, that growth depended on digital communications infrastructure and intellectual property regimes.¹² The content owners, over whom the Commission is increasingly gaining jurisdiction due to vertical integration, will require their products be protected with a powerful mix of intellectual property rights, contract laws and control over the communications infrastructure. They rightly believe the economic growth coming from their industry can survive in an era of digital copies and rapid distri-

bution of copies over the Net, and be extended globally, only under certain conditions. The key condition is that the delivery of digitized intellectual property must occur over a communications infrastructure characterized by its willingness to limit the control over the edge device by the consumer. The Commission and the courts will be required to play central roles.¹³

It is too early to tell the precise impact the Commission’s broadband policies will have on the end-to-end architecture of the Internet and the control over the edge devices currently enjoyed by citizens. But the Commission’s role in a multitude of areas like ensuring privacy and blocking piracy of digitized intellectual property will inevitably grow.¹⁴ Key questions about the nature of computer code under the First Amendment, as discussed in *Universal City Studios, Inc. v. Corley*, will confront the agency in the near future.¹⁵ Today’s growing interrelationship of application code and transport code (consider the Instant Messaging condition in the AOLTW Order) is the digital projection of the concerns that animated the early *Computer Inquiries*. The Commission’s leadership correctly realizes that under current market conditions, a failure to initiate cohesive broadband policies that address these issues will saddle America’s communication industry (and, indirectly, its copyright industry) with debilitating arbitrage arising from regulatory and jurisprudential asymmetries, costly and massive litigation, conflicts in the opinions of the federal courts and dueling legislative initiatives. Such outcomes inexorably destabilize strategic decision-making environments for the network owner, the Web-based service or application provider, the investor and the consumer.

But how worried should the average citizen be about the market-based problems facing the communications/content industry? It is clear that the

⁹ *Id.* at para. 7.

¹⁰ *Id.* at para. 13.

¹¹ See Benkler, *supra* note 5; see also LESSIG, *supra* note 5.

¹² See STEPHEN E. SIWEK & HAROLD W. FURCHTGOTT-ROTH, COPYRIGHT INDUSTRIES IN THE U.S. ECONOMY: THE 2000 REPORT. (2001); see also J.P. Morgan-McKinsey, *Broadband 2001- A Comprehensive Analysis of Demand, Supply, Economic, and Industry Dynamics* 3 (April 2001) (joint study by McKinsey & Company and J.P. Morgan Securities, Inc.).

¹³ See, e.g., The Digital Millennium Copyright Act (“DMCA”), Pub. L. 105-304, 112 Stat. 2863 (1998) (codified at 17 U.S.C. §1201 et seq.); see also *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2nd Cir. 2001). In *Universal City Stu-*

dios, the court, in rejecting certain constitutional challenges to the DMCA, noted the role of the Internet, particularly “the virtually instantaneous and worldwide dissemination widely available via the Internet,” in its constitutional analysis. *Id.* at 452.

¹⁴ See, e.g., The Digital Millennium Copyright Act (“DMCA”), Pub. L. 105-304, 112 Stat. 2863 (1998) (codified at 17 U.S.C. §1201 et seq.). For an early take on one aspect of the controversy, see, e.g., Julie E. Cohen, *A Right to Read Anonymously: A Closer Look at “Copyright Management” in Cyberspace*, 28 CONN. L. REV. 981 (1996).

¹⁵ *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2nd Cir. 2001).

wireline broadband providers believe the next wave of economic growth from digitized, broadband-ready intellectual property may be unrealized unless convergence at the transport platform level leads to some form of regulatory parity (or at least reduced regulatory asymmetry) with cable modem service. If achieved, they will then see an end to costly delays in deployment of both broadband conduit and content.¹⁶ Others believe that altering the rules that allowed openness, and that appear to have stimulated the first round of Internet growth through narrowband access, will harm the vibrant, open culture that has characterized the Internet and replace it with the closed proprietary approach of the cable system. These concerns of course both implicate the "open access" question in cable modem service and analogically relate to the question of the set top box in the cable network that are both subject to an open Commission docket.¹⁷ A recent Commission Meeting notice indicates there will be a new NPRM on at least on some of the questions arising from the *Cable Modem NOI*. Probably when read

together, the *Wireline Broadband NPRM* and the not-yet-released cable modem NPRM, will describe ways out of this thicket that do not require complete revision of the Communications Act or taking a machete to the Commission's rules.

One thing is certain, over the next 60 days or so, citizens will have a wide-open opportunity to comment on the possible approaches the Commission may take, and thus (theoretically) impact the regulatory framework for broadband, and therefore the architecture of the Internet. In an era when the U.S. Supreme Court is considering copyright questions, and the growing interdependence of competition policy, intellectual property policy and communications policy can be readily seen in terms of good-old First Amendment and privacy concerns, citizens should act. By the time you are reading this, the record at the FCC will show whether and what extent we availed ourselves of the chance to join the Commission in addressing some of the most complex problems facing our democracy and our nation.

¹⁶ The view of the wireline broadband providers is apparently shared by the Commission since it essentially said in its *Wireline NPRM* the failure to act in a cogent manner will result in frustration of Congressional intent regarding promotion of a competitive free market for Internet services. See *Wireline Broadband NPRM*, *supra* note 2. Compare 47 U.S.C. §230(b)(1)-(2), (mandating that it is the U.S. policy "to promote the continued development of the Internet and other interactive computer services and other interactive media; to

preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services . . . "); see also 47 U.S.C. §157(a) ("to encourage the provision of new technologies and services to the public").

¹⁷ See *Navigation Devices Order*, see also 47 U.S.C. §549(a) (2002). Section 629 was adopted as part of the Telecommunications Act of 1996. Pub. L. No. 104-104, 110 Stat. 56 (1996); see also S. CONF. REP. 104-230, at 181 (1996).