Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Appropriate Framework for Broadband Access to the Internet over Wireline Facilities	)	CC Docket No. 02-33
	)	
Universal Service Obligations of Broadband Providers	)	
	)	
Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements	)	CC Dockets Nos. 95-20, 98-10

COMMENTS OF CATENA NETWORKS, INC.

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SUMMARY

Catena Networks, Inc. ("Catena"), as a manufacturer of technology that provides broadband access using wireline facilities, has a strong interest in seeing the elimination of the current investment disincentives to deployment of such equipment. Uncertainty and the threat of dissimilar regulatory burdens, including unbundling (and then re-bundling) at non-compensatory prices are stifling investment in advanced services technology by the ILECs. Catena can attest to the fact that these disincentives are not mere posturing by the wireline carriers – investment in Catena's systems, which can provide DSL service to customers in rural and suburban areas served by certain legacy remote terminals, has slowed markedly, notwithstanding their proven economic and technical capabilities.

The Commission appears to be headed down the proper path in its efforts to develop a rational, coherent broadband policy through a series of interrelated proceedings, including this one. Catena urges the Commission to complete these proceedings as rapidly as possible, and in a manner that eliminates the carriers' disincentives for investment in broadband capabilities and fosters facilities-based competition.

In developing its broadband policy, including setting the framework for broadband Internet access provided over wireline facilities, the Commission acknowledges the need for consistent regulation over multiple platforms. The Commission's tentative conclusion that such Internet access service is an "information service" and that the transmission component is "telecommunications" is consistent with

the Communications Act, consistent with the goal of encouraging the widespread availability of broadband service, and consistent with the proposed treatment of cable modem service. Finally, the Commission must ensure that the comprehensive broadband policies adopted in these interrelated proceedings apply uniformly both across all platforms and across all of the states. If it fails to do so, uncertainty and investment disincentives are likely to be re-introduced on a state-by-state basis. Catena believes that the series of steps recommended herein will allow the Commission to reach its goals and well serve the public interest.

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COMMENTS OF CATENA NETWORKS, INC.

Catena Networks, Inc. ("Catena") takes this opportunity to comment on several aspects of the Commission's proceeding examining the appropriate legal and policy framework for broadband access to the Internet provided over wireline facilities.[1] As part of its comprehensive review of broadband issues, the Commission is determining how wireline broadband services should be regulated under the Communications Act, as amended by the Telecommunications Act of 1996, while also taking into account technological evolution and developments in the marketplace. Catena shares the Commission's goals in this proceeding – encourage the deployment of broadband services; review broadband regulation across platforms; minimize regulation; and develop an analytic framework that is consistent across platforms. As explained below,

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[1] *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket No. 02-33, FCC 02-42, Notice of Proposed Rulemaking (rel. Feb. 15, 2002) (hereafter cited as "*Notice*").

Catena believes that in order to reach these goals, the Commission must take steps to ensure that the regulation of broadband services provided over wireline facilities does not serve as a deterrent to investment in and deployment of advanced technologies that can bring broadband services to all Americans.

I. INTRODUCTION

As a leading developer of advanced communications systems, Catena is highly interested in this proceeding and well qualified to address some of the issues raised in the *Notice*. Catena is a privately held corporation, headquartered in Redwood Shores, California, with its research and development operation in Kanata, Ontario, Canada. Catena was founded in December 1998 with a vision to create the New Access Architecture for the Converged Public Network and, in the process, make broadband access as ubiquitous as plain old telephone service ("POTS"). Catena has also actively participated in several of the Commission's predecessor and interrelated proceedings concerning deployment of advanced services.[2]

Catena has approached the deployment of broadband services from the technical, not regulatory, perspective. Catena's management and staff bring with them a wealth of telecommunications engineering experience. The Catena development team consists of some of the industry's top design and system engineers in the access technology field, with extensive experience in developing and deploying high-volume POTS, DSL, cable

[2] *See, e.g.,* Comments of Catena in CC Docket No. 98-147, filed October 12, 2000; Reply Comments of Catena in CC Docket No. 98-147, filed November 14, 2000; Comments of Catena in CC Docket No. 98-147, filed February 27, 2001; Comments of Catena in CC Docket No. 01-338, filed April 5, 2002.

telephony, cable data and ISDN. Specifically, the team draws on an unparalleled record of delivering high-performance, cost-optimized systems for high-volume deployment—with more than 150 million lines of existing designs currently in service worldwide.

As the explosive growth in Internet usage continues to inundate today's telephone network, Catena believes its breakthrough innovations will help revolutionize the subscriber interface to the converging voice and data networks. Catena markets its products to service providers, including the incumbent local exchange carriers ("ILECs") and the competitive local exchange carriers ("CLECs"), seeking the ability to transform their subscriber lines for the efficient delivery of broadband data and voice services. Carriers deploying Catena's broadband systems have the ability to carry out a line-by-line migration from today's circuit-switched network to the packet-based network of tomorrow, while retaining their customers' reliable lifeline services. Several carriers have already begun to deploy Catena's groundbreaking technology.

Thus, Catena is poised to help bring broadband capabilities throughout the country. Unfortunately, regulatory uncertainty and the prospect of uneconomic and asymmetric regulation have slowed, and in some cases stopped, ILEC investment in new technologies capable of providing advanced broadband services. In light of the heightened importance of the availability of advanced telecommunications to our country's educational system and economy,[3] Catena urges the Commission to act expeditiously in resolving the current regulatory uncertainty and disincentives surrounding ILEC deployment of broadband capabilities.

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[3] *See, e.g., Wall Street Journal,* March 28, 2002 at p. B-4 (discussing continuing growth in telecommuting).

II. THE COMMISSION MUST ACT QUICKLY TO RESOLVE THE OUTSTANDING BROADBAND REGULATION ISSUES

The *Notice* is one of a series of interrelated proceedings initiated by the Commission to address broadband regulation across platforms. Catena applauds the Commission's efforts to address the broadband issues comprehensively through a series of interrelated rulemaking proceedings, rather than through piecemeal, uncoordinated resolution of discrete issues as they arise. The Commission has initiated several complementary proceedings, which should result in a holistic and well thought out approach to broadband regulation that incorporates competitive concerns (both inter- and intra-modal) as well as public interest considerations. In addition to this proceeding concerning the appropriate regulatory treatment of broadband Internet access provided over wireline facilities, the Commission is concurrently reviewing the unbundling obligations of the ILECs,[4] the appropriate regulation of ILEC broadband services,[5] and the appropriate framework for broadband access provided over cable facilities.[6]

While Catena believes that such a comprehensive approach to broadband regulation will lead to a cohesive and rational regulatory structure, Catena also urges the Commission to be mindful of the need to resolve these issues as quickly as possible.

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[4] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338, FCC 01-361, Notice of Proposed Rulemaking (rel. Dec. 20, 2001).

[5] *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337, FCC 01-360, Notice of Proposed Rulemaking (rel. Dec. 20, 2001).

[6] *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities and Internet Over Cable Declaratory Ruling*, GN Docket No. 00-185, CS Docket No. 02-52, FCC 02-77, Declaratory Ruling and Notice of Proposed Rulemaking ("*Cable Modem Framework Proceeding*") (rel. Mar. 15, 2002).

Technology continues to evolve, and more importantly, the marketplace does not stand still. Thus, the distortions caused by the current uncertainty and disparate treatment of service providers will increasingly impact the service providers, consumers and manufacturers of broadband technology like Catena.

The complaints concerning the disincentives for investment in advanced technology are not mere hypothetical concerns or posturing by the ILECs. Catena has successfully developed technology that makes DSL broadband services practical and economical for deployment in certain legacy remote terminals – the CNX-5 Broadband ADSL system for upgrading Lucent SLC® Series 5 ("SLC-5") Digital Loop Carrier systems.[7] Catena's technology has been successfully tested in laboratories and field trials by most of the largest ILECs in the United States, and CNX-5 systems have already been commercially deployed by several mid-size ILECs. However, despite the now proven technical and economic performance of Catena's technology, several carriers have expressed reluctance to deploy this product because of the current regulatory uncertainty over unbundling, pricing and access. Moreover, other Catena customers are choosing to deploy the CNX-5 products in some states within their territories, but not others, because of specific or proposed regulatory treatment by the State commissions. Catena has thus

[7] The CNX-5 system contains three elements: (1) the Catena Enhanced Channel Unit integrated linecard that provides two POTS and two DSL lines (which fits in the current SLC-5 two POTS linecard port); (2) the Catena Enhanced Channel Test Unit ATM multiplexer card for multiplexing and management of the DSL service (which fits in the current SLC-5 channel test unit and also provides that functionality); and (3) the CatenaView Element Management System (which provides provisioning and management functionality for the DSL service and integrates with upstream Operation Support Systems). The CNX-5 system has the potential to bring high-speed Internet access service to a significant portion of the United States that would otherwise be unlikely to be served by any broadband carriers. Some 20 million lines are served at present by the SLC-5 remote terminals, many of those in rural or suburban areas.

observed first hand the impact of regulation (and regulatory uncertainty) on broadband deployment.

Catena is not alone in these experiences. As the Commission acknowledged in its Cable Broadband Structure proceeding, DSL deployment by the ILECs is being scaled back.[8] Moreover, Catena observes that several telecommunications equipment manufacturers have halted or decreased their DSL technology activities. As is evidenced by what is happening (or not happening) in the marketplace, the current regulatory environment is retarding the investment in new technologies that can provide broadband access to all Americans, to the detriment of the public interest. Catena thus urges the Commission to conclude this and the other interrelated rulemaking proceedings concerning broadband technologies as expeditiously as possible so as to minimize the adverse effects of the current regulatory uncertainty.

III. IN ADDRESSING THE ILECS' REGULATORY OBLIGATIONS, THE COMMISSION MUST ELIMINATE DISINCENTIVES FOR INVESTMENT IN NEW TECHNOLOGY

In this proceeding, the Commission is seeking to resolve how broadband services provided over wireline facilities should be treated under the various regulatory paradigms encompassed in the Telecommunications Act of 1996 and the Communications Act of 1934. As part of this process, the Commission indicated that it would be guided by four principles and policy goals: encourage the ubiquitous availability of broadband access to all Americans; develop a regulatory framework that is technology neutral, and includes all platforms; minimize regulation of broadband; and develop an analytical framework

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[8] *See Cable Modem Framework Proceeding* at n. 9.

that is consistent, to the extent possible, across multiple platforms.[9] Catena concurs wholeheartedly with these objectives. Catena also believes that following this course will eliminate the current disincentives for investment and encourage facilities-based competition, all to the benefit of the public interest.

Catena believes that the analytic framework and statutory classification set forth in the *Notice* comports with the 1996 Act and accomplishes these goals.[10] Catena agrees that Internet access services provided over wireline facilities, whether owned by the service provider or independent parties, are best classified as "information services." Catena also concurs in the Commission's tentative conclusion that the transmission component of such Internet access service is "telecommunications," and not a "telecommunications service." Such an interpretation would remove the unbundling and TELRIC pricing obligations from the wireline carriers that may apply currently, and thus avoid the investment disincentives that exist today. As a result, broadband services should be available to more Americans.

In addition, classification of Internet access service as an "information service" and the transmission component as "telecommunications" would be consistent with the Commission's conclusions with regard to Internet access services offered over cable facilities.[11] Such a consistent interpretation has the beneficial effect of leading to a level regulatory playing field for the wireline carriers and cable service providers. Indeed, consistent regulatory treatment of the cable and wireline services and facilities means that

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[9] *Notice* at ¶¶ 3-6.

[10] *Notice* at ¶¶ 17-29.

[11] *Cable Modem Framework Proceeding* at ¶¶ 31-71.

competition would not be skewed by asymmetric regulation.[12] As a result, marketplace forces, and not regulatory intervention, would determine the outcome of inter-modal competition.

The benefits of facilities-based broadband competition are manifold. Customers will be able to choose from a range of innovative offerings, instead of taking the same service merely "labeled" differently. Indeed, such competition will foster continuing investment and innovation in order to survive and win in the marketplace. In addition, as the events of September 11th made clear, the existence of multiple, facilities-based networks provide redundancy and faster restoration from man-made or natural disasters. The availability of narrowband wireless networks allowed a measure of voice traffic to resume promptly in New York City, notwithstanding the significant damage wrought to the incumbent carrier's network by the attacks on the World Trade Center. Similar backup and restoration alternatives should exist for broadband services as well, and they will if there is facilities-based broadband competition among the wireline telephone networks, cable service providers, terrestrial wireless carriers and satellite service providers.

IV. THE ROLE OF THE STATES

The *Notice* also seeks comment on the appropriate role for the state commissions if the Commission adopts its proposals to classify broadband Internet access services

[12] In the *Cable Modem Framework Proceeding*, the Commission acknowledged that the presently unregulated cable modem service accounts for over two-thirds of residential broadband subscribers today. *Cable Modem Framework Proceeding* at ¶ 9.

provided over wireline facilities as "information services."[13] Catena believes it would be appropriate for the Commission to preempt any effort by the states to impose inconsistent regulations, including access obligations or uneconomic pricing requirements. Catena's concern is that with respect to broadband services, inconsistent state-imposed obligations would frustrate a national policy that seeks to foster the deployment of advanced services to all Americans. As discussed above, Catena believes it is critical that the Commission eliminates the disincentives that exist today with regard to ILEC investment in new broadband technologies. Allowing states to adopt requirements that re-institute those investment disincentives would prevent broadband services and broadband competition from flourishing throughout the country, to the detriment of the public interest.

The Commission presumably is attempting to develop a rational, holistic broadband policy that applies across different platforms uniformly through its initiation of the interrelated proceedings. In a similar vein, the Commission should ensure that the policies it adopts with regard to the classification of broadband services and access to the ILECs' facilities used to provide those services also apply uniformly across the nation. Indeed, in the context of developing policies for cable modem service, the Commission acknowledged the importance of establishing a national policy:

> We would be concerned if a patchwork of State and local regulations beyond matters of purely local concern resulted in inconsistent requirements affecting cable modem service, the technical design of the cable modem service facilities, or business arrangements that discouraged cable modem service deployment across political boundaries. We also would be concerned if State and local regulations limited the Commission's ability to achieve its national broadband policy goals to "promote the deployment of advanced telecommunications capability to all Americans in a reasonable and timely manner," "to promote the

[13] *Notice* at ¶¶ 62-63.

> continued development of the Internet and other interactive computer services and other interactive media" and "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."[14]

These same concerns and policies are equally applicable to wireline carriers' provision of broadband services.

Moreover, these concerns are not mere speculation or hypothetical matters. State regulators, like nature, abhor a vacuum, and they have already begun to fill the current void by imposing their own (sometimes-inconsistent) regulatory regimes. State Commissions have already begun to assert jurisdiction over the ILECs' broadband services, and even applied pricing rules that are inconsistent with previous FCC decisions. For example, the Department of Public Utility Control for the State of Connecticut recently required the telephone company to provide DSL transport service at a 25.4% wholesale discount,[15] notwithstanding the fact that the Commission had previously held that such services were not retail offerings subject to such a discount.[16] The Public Utilities Commission of the State of California recently asserted that it has concurrent jurisdiction over DSL transport service, notwithstanding its admittedly

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[14] *Cable Modem Framework Proceeding* at ¶ 97, quoting 47 U.S.C. § 157 note, §230(b)(1), (2).

[15] *Petition of DSLnet Communications, LLC Regarding Obligations of the Southern New England Telephone Company*, Docket No. 01-01-17 (March 28, 2002)

[16] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, FCC 99-330, Second Report and Order (rel. Nov. 9, 1999); *aff'd, Association of Communications Enterprises v. FCC*, 253 F.3d 29 (D.C. Cir. June 26, 2001).

interstate nature.[17] Without action by the Commission making clear that a uniform national broadband policy applies, the states could continue to re-introduce uncertainty and disincentives to ILEC investment in new technologies.

The Commission must act quickly to establish a national policy, or else the "patchwork" that has already begun to spring up will turn into large areas where broadband investment by the ILECs never occurs. Without such investment, inter-modal competition will not thrive and end users will have little, if any, access to broadband services. The public interest clearly would be disserved by such a development. Catena thus urges the Commission to act expeditiously in this and the other interrelated proceedings to adopt a rational national broadband policy, and to make clear in all of those proceedings that state decisions that frustrate that federal policy are preempted.

VI. CONCLUSION

Catena believes the Commission has embarked on a critical journey by initiating this and several other interrelated proceedings. The goals are laudable – developing a rational broadband policy that will encourage investment in new technology, foster facilities-based competition and make broadband services available to all Americans. The Commission must act quickly to complete this journey. The current uncertainty and the threat of regulation imposing uneconomic prices for access to the ILECs' facilities is already stifling investment by the incumbent carriers. Finally, the Commission must ensure that the "holistic" broadband policy applies across all of the states, so that the uncertainty and disincentives are not re-introduced on a state-by-state basis. Catena

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[17] *California ISP Association, Inc. v. Pacific Bell Telephone Company*, Case 01-07-027 (Cal. PUC Mar. 28, 2002) at p. 6.

believes that Commission action consistent with Catena's recommendations herein, and concluded as rapidly as possible, will best serve the public interest.

Respectfully submitted,

By: /s/

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