Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Deployment of Wireline Services Offering	)	CC Docket No. 98-147
Advanced Telecommunications Capability	)	
	)	
and	)	
	)	
Implementation of the Local Competition	)	CC Docket No. 96-98
Provisions of the	)	
Telecommunications Act of 1996	)	

REPLY COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

Pursuant to Section 1.415 of the Commission's Rules,[1] the Telecommunications Industry Association (TIA)[2] hereby replies to the comments submitted in response to the *Second Further Notice of Proposed Rulemaking* in the above-captioned proceeding.[3] As the leading association of telecommunications equipment manufacturers, TIA is particularly well suited to address certain of the questions raised in the Commission's *Second FNPRM*. Specifically, TIA responds to the questions asked about the feasibility of permitting a competitive local exchange carrier (CLEC) to collocate its own line card in

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1 *See* 47 C.F.R. § 1.415.

2 TIA is a full-service national trade organization with membership of over 1,000 large and small companies that provide communications and information technology products, materials, systems, distribution services and professional services in the United States and around the world. The association's member companies manufacture or supply virtually all of the products used in global communication networks.

3 *See Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Dkt. No. 98-147, Second Further Notice of Proposed Rulemaking, FCC 00-297 (rel. August 10, 2000) (*Second FNPRM*).

the digital loop carrier system of an incumbent local exchange carrier (ILEC). Additionally, TIA responds to questions posed about limiting the functionality of equipment that is deployed in an ILEC's central office or remote terminal.

I. THE FCC SHOULD NOT REQUIRE LINE CARD COLLOCATION

In the *Second FNPRM*, the Commission recognized that carriers often provide service from remote terminals (RTs) through Digital Loop Carrier (DLC) systems.[4] Indeed, providing advanced services through DLC systems is considered a typical method of deploying next generation networks. These next generation DLCs (NGDLCs) contain, among other things, integrated line cards (often referred to as "plug-in cards") that are used to provide specific advanced services and other telecommunications services to consumers. In examining technical issues arising from the *Second FNPRM*, the Commission asked whether it is feasible for CLECs to collocate their own line cards, either physically or virtually, within ILECs' DLCs.[5]

TIA strongly believes that physical collocation of a CLEC's own plug-in line card is difficult due to: 1) lack of compatibility; 2) NGDLC systems have proprietary components; 3) collocation creates unnecessary network reliability risks; and 4) collocation raises serious maintenance and warranty issues.

First, CLECs cannot physically collocate their own line cards in an ILEC's NGDLC if the line cards are manufactured by a third party vendor or otherwise not

4 *See Second FNPRM* at 38-39.

authorized by the ILEC vendor. Such line cards will be incompatible with original equipment. In order for the CLEC to install its "own" line card, it would have to insure its compatibility with the deployed system.

NGDLCs are software-controlled systems, and plug-in line cards are only integral sub-components of these systems. The CLEC would have to ascertain system hardware specifications, such as the physical size of the line card slot, power requirements, heat dissipation rate, physical interfaces, among others, which will vary by manufacturer. In fact, NGDLC manufacturers have developed their systems independent of others, resulting in both hardware and software differences between their respective products. Taking into consideration all of the different combinations of hardware and software among the dozen or so manufacturers offering this technology will be very cumbersome and expensive, perhaps impossible. Some commenting parties suggest the standardization of these systems to permit interoperability of cards from third party vendors. The FCC should recognize that a standardization process will likely delay if not thwart prompt deployment of next generation networks. This result undermines the FCC's ongoing efforts to promote the deployment of advanced telecommunications services to all Americans.

Secondly, CLECs cannot collocate line cards because they do not have authority to access proprietary parts of the NGDLC system. Manufacturers have invested billions of dollars to develop innovative next generation technologies like the NGDLC. At the time these investments were made, there were no regulatory mandates for third party line card interoperability. A change in rules, *ex post facto*, will undermine substantial

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[5] *Second FNPRM* at Page 48

investments made by equipment manufacturers and may harm future development.

In addition, the CLEC would need to access the internal system software, in order for any line card to be recognized by the system once it is installed. Hardware design and software codes are the proprietary intellectual property of the respective equipment manufacturers. The system software code is copyright protected, and only available, in part, by restricted licensing agreement with the NGDLC system owner. Ordinarily, the licensee may not assign or sublicense its rights to use the software code. Some system software code may not even be available to the system owner. The system owner, typically the ILEC, cannot as a practical matter and as a matter of law, share the NGDLC system software with third parties.

The only cards that may be installed are those supplied or authorized by the system manufacturer and supported by the system software. Even when supported line cards are physically installed, service is not available until the software-controlled configuration and provisioning functions are complete. Under licensing terms, only the system owner may undertake such provisioning.

Thirdly, physical collocation of plug-in line cards would create additional risk to network reliability. In light of the engineering, design and security issues described by some parties during the initial comment round, an increased risk of network failure persists if a CLEC gains access to a remote terminal and proceeds to install a line card in a NGDLC. Under circumstances where the CLEC installs its own card, a serious question arises over what party will have responsibility to repair the system if service is interrupted? Will it be the ILEC, its NGDLC vendor, the CLEC or its line card vendor?

Finally, physical collocation of plug-in line cards may void the equipment manufacturer's warranty provisions. Manufacturers typically offer warranties with products purchased by service providers. Warranty terms set out the obligations of both the buyer and seller of the system. In the case of a NGDLC, the warranty will be valid, so long as the equipment is used as directed by the manufacturer. A NGDLC manufacturer's standard warranty may preclude the use of third party and unauthorized hardware or software in its product. In the event that a third party or unauthorized plug-in line card is installed in the system, the warranty may be automatically void.

II. THE FCC SHOULD ALLOW MARKET FORCES TO STIMULATE INNOVATION

The Commission also asked several questions about trends in the manufacturing of advanced telecommunications equipment. Specifically, the Commission asked whether there may be certain efficiencies by allowing manufacturers to design equipment with functions in addition to those needed for interconnection and access to unbundled network elements. The Commission further asked whether limiting the functionalities of such equipment would diminish a vendor's incentive to develop equipment having features, functions and capabilities that increase network efficiency, lower consumer rates, or otherwise advance important statutory objectives. While a number of commenting parties promote the interoperability of line cards, no party makes a strong case that regulatory mandate should trump market forces.

TIA strongly believes that market drivers should be allowed to stimulate innovation and investment in the deployment of advanced technologies, including equipment that performs multiple functions. The market-oriented approach that the Commission has taken to date has allowed the emergence of the wide variety of competitive technologies highlighted in the record of the proceeding. As stated above, telecommunications equipment manufacturers have invested billions of dollars to develop intelligent boxes that can perform multiple functions efficiently without taking up additional space or power requirements. These innovative technologies allow consumers affordable access to the Internet. The imposition of any regulatory requirement that is not sufficiently sensitive to market and business considerations would inhibit the continued growth of innovative technologies and strand the substantial research and development investments that vendors have made.

III. CONCLUSION

For all the reasons described herein, TIA urges the Commission to refrain from requiring the physical collocation of a CLEC's own plug-in line card. TIA also recommends that the Commission not take any regulatory action that would have the effect of inhibiting innovation and investment in the deployment of advanced technologies.

Respectfully submitted,

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November 14, 2000

Certificate of Service

I, Griffin Wilfong, certify that on this 14th day of November, 2000, copies of the foregoing “Reply Comments of the Telecommunications Industry Association” were sent by first-class mail to the following:

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