

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

In the Matters of)
)
Deployment of Wireline Services)
Offering Advanced Telecommunications)
Capability)
)

CC Docket No. 98-147

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JUN 15 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

COMMENTS OF @LINK NETWORKS INC.

@link Networks Inc. ("@link") hereby submits its comments in the above
referenced proceeding.¹

I. INTRODUCTION.

@link is a national provider of broadband access for a wide variety of data
applications for business, Internet service providers, and network integrators through the
use of digital subscriber line ("DSL") technology. @link currently serves customers in
metropolitan markets in Wisconsin and Illinois. @link has recently raised
\$135 million through a combination of equity, debt, and vendor financing. @link plans to
make significant investments in its DSL network in order to expand into 34 new
metropolitan markets throughout the United States by the end of 2000.² The majority of

¹ In the Matters of Deployment of Wireline Services Offering Advanced
Telecommunications Capability, CC Docket No. 98-147, *First Report and Order
and Further Notice of Proposed Rulemaking*, FCC 99-48 (rel. March 31, 1999)
("Notice").

² Over the next six months, @link plans to deploy DSL technology in Indiana, Ohio,
Michigan, Pennsylvania, Georgia, Florida, Texas, Colorado, Minnesota, Virginia,
South Carolina, North Carolina, Kansas, South Dakota, and Nevada.

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these markets are small, "Tier II" and "Tier III" markets, such as Milwaukee, Eau Claire, and Beaver Dam, Wisconsin. This population -- which includes many rural areas -- is the population that the Congress and the Commission believe is most in need of access to advanced services on an economic basis. As discussed below, absent mandated line sharing, most of this population will have not have an economic means to obtain advanced services from competitive providers such as @link.

DSL technology is particularly well-suited for the rapid deployment of advanced services to small and medium business customers and residential customers (including rural customers) because DSL offers an efficient means of increasing bandwidth on the local loop without replacing (or adding to) the existing twisted-pair copper wiring. The family of DSL technologies provide data transfer rates as high as 50 Mbps over short distances and 6 to 9 Mbps over longer distances. Because it utilizes existing copper lines, DSL is comparatively inexpensive to install.

Asymmetric DSL ("ADSL") is one of the most promising of the DSL technologies. ADSL supports simultaneous data services and voice calls by apportioning the line bandwidth asymmetrically, with most of its two-way bandwidth devoted to the downstream direction, permitting large amounts of graphic and three-dimensional data to be sent to the user's computer or television.³ A small part of its downstream bandwidth can also be devoted to voice, allowing users to hold telephone conversations without requiring a separate line. ADSL also provides continuous connection to the Internet or

³ White Paper, WAN Technologies and Digital Subscriber Line (Jan. 1998) <<http://www.dell.com/r&d/whitepapers/wpwan.htm>>.

other network applications, thereby avoiding time consuming connection procedures and busy signals.

G.Lite is a reduced speed version of ADSL that provides a data range of 1.544 Mbps to 6 Mbps downstream and 128 Kbps to 384 Kbps upstream (speeds of up to 25 times faster than the fastest analog modems).⁴ G.Lite was introduced by Study Group 15 of the International Telecommunications Union in September 1997. Standards have been developed by the Universal ADSL Working Group and testing is currently underway. @link believes that once it is made available, G.Lite will become the most widely-used form of DSL technology.⁵ Hence, now is the optimal time to mandate line sharing for G.Lite.

G.Lite is easier and less expensive to install than other versions of DSL. A central office device or "POTS splitter" receives the user's voice and data on one side and sends out two signals on the other side, one containing analog traffic destined for the telephone company's circuit switch and one containing digital traffic destined for the collocated digital subscriber line access multiplexer ("DSLAM"). This simple arrangement is possible because G.Lite contains a built-in guard band which prevents interference between the voice and data signals. Because the line splitting occurs at the wire center, not at the customer's premises, special installation services by the telephone company and additional inside wiring are not required at the customer site.

⁴ Eric Brown, G.Lite 1.5-mpbs Modems May Arrive By Spring (Oct. 23, 1998) <<http://www.pcworld.com/pcwtoday/article/0,1510,8546,00.html>>.

⁵ Major equipment vendors report that they are equipping their personal computers with G.Lite modems. See Liam Quinn, G.lite Technology (Jan. 1999) <<http://www.us.dell.com/r&d/wp/winter98/glite.htm>>.

G.Lite was designed to use Discrete Multi-Tone ("DMT") technology, a new technology which permits G.Lite to be installed over a wider selection of local loops than the older Carrierless Amplitude and Phase Modulation ("CAP") technology used for other ADSL services. In addition, if operated at lower speeds, G.Lite can travel longer distances than other ADSL technologies, thus permitting service to a substantial number of subscribers who would otherwise be deprived of inexpensive advanced capability, such as subscribers in rural areas.

II. THE COMMISSION SHOULD MANDATE LINE SHARING IN ORDER TO FACILITATE THE MASS DEPLOYMENT OF ADVANCED SERVICES.

@link agrees with the Commission that DSL providers should have the right to offer advanced services over the same line on which the incumbent local exchange carrier ("ILEC") provides voice service.⁶ Section 706(a) of the Telecommunications Act of 1996 directs the Commission to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans" by, *inter alia*, promoting competition in the local telecommunications market and removing barriers to infrastructure investment.⁷ As discussed below, enabling DSL providers to take advantage of efficiencies generated through line sharing will contribute to lower prices, more innovative service offerings, and enhanced competition for DSL services. In turn, more consumers will have access to these advanced services.

⁶ Notice at ¶ 96.

⁷ Telecommunications Act of 1996, Pub. L. No. 104-104, sec. 706(a)("the Act").

In order to provide data services using DSL technology, competing providers (and their customers) currently must obtain an additional line from the ILEC, while ILECs may provide DSL using the existing lines provided to their customers. Generally, high-volume, high-margin business customers can afford to purchase additional lines. The costs associated with installation of and monthly charges for additional lines, however, may discourage many potential customers from obtaining advanced services from companies such as @link. Instead, these customers obtain DSL services -- if at all -- from the ILEC, which can provide these services using the lines the ILECs provide their customers. @link estimates that it could reach between 30 to 40 percent more customers -- both business and residential -- if it could offer DSL by sharing existing lines. In many cases, since this would be the only way in which these customers would have access to affordable advanced communications services, it is essential that the Commission ensure that there is a choice of providers of shared DSL services.

III. THE COMMISSION SHOULD IMMEDIATELY MANDATE LINE SHARING FOR ADSL TECHNOLOGIES IN DEVELOPMENT SUCH AS G.LITE.

The Notice seeks comment on the technical, operational, pricing, and other practical issues surrounding line sharing.⁸ As an initial matter, @link agrees with the Commission that it has jurisdiction to mandate line sharing at the federal level.⁹ In

⁸ Notice at ¶ 97.

⁹ The definition of a "network element" includes "features, functions, and capabilities" provided by means of facilities or equipment used in the provision of a telecommunications service. 47 U.S.C. § 153(29). Under Section 251(c) of the Act, ILECs have the obligation to provide access to network elements on an unbundled basis to requesting telecommunications carriers. 47 U.S.C. § 251(c)(3). As the Notice observes, "[l]ine sharing assumes that a requesting carrier will have access to the incumbent ILEC's local loop." Notice at ¶ 94. Once this assumption

addition, @link agrees with the Commission that line sharing is feasible as a technical matter.¹⁰ The public interest benefits described above make clear that line sharing should be mandated broadly where line sharing capability has been either incorporated in applicable industry standards, implemented by an ILEC, or approved by a state commission. As discussed below, G.Lite is the DSL technology that can most easily be offered on shared lines; hence, the Commission should immediately mandate line sharing for G.Lite.

G.Lite is particularly well-suited to a shared-line environment. For example, monitoring of signal quality is unlikely to cause difficulties because G.Lite was designed with a guard band to prevent interference between the voice and digital bands. More importantly, however, G.Lite is suited to line sharing because, with G.Lite, line splitting occurs at the wire center, not the customer's premises and no additional inside wiring is required. Consequently, no telephone company visit to the customer's premises is required. In addition, consumers can install G.Lite modems themselves. Accordingly, issues concerning installation, maintenance, and repair of the G.Lite equipment at the

has been made, it follows that line sharing is a capability of the local loop. Therefore, the Commission has jurisdiction to mandate line sharing because it has rulemaking authority under Section 201(b) of the Act to implement the local-competition provisions of Sections 251 and 252. See AT&T Corp. v. Iowa Bd. of Util., 1999 U.S. LEXIS 903, *19 (Jan. 25, 1999).

¹⁰ Notice at ¶ 103; see also Ex Parte Presentation of Covad Communications Company in CC Docket No. 98-147 (filed June 3, 1999)(stating that Bell Atlantic's voice and Infospeed DSL service already line-share -- Bell Atlantic provides the voice service and an independent ISP resells the DSL service to the same customer); Reply Comments of MachOne Communications in CC Docket No. 98-147, at 7 (filed Oct. 16, 1998)(stating that Pacific Bell is permitting an unaffiliated company -- Concentric Networks -- to provide voice and data over loops simultaneously used to provide ILEC voice services).

customer premises do not arise. Instead, G.Lite simply requires the collocation of passive equipment (the POTS splitter and DSLAM) at the wire center. This arrangement is no different than any other collocation arrangement anticipated by the Commission's collocation rules and policies.¹¹

IV. THE COMMISSION SHOULD ESTABLISH A COST ALLOCATION METHODOLOGY FOR SHARED LINES THAT ALLOCATES THE COST OF THE LOCAL LOOP BETWEEN THE ILEC AND THE COMPETITIVE DSL PROVIDER.

The Commission also seeks comment on economic, pricing, and cost allocation issues that may arise from line sharing.¹² The Commission must establish a methodology by which to assign the cost of the local loop and other shared equipment between the ILEC and the DSL provider. A potential solution to the problem of allocation of the recurring costs of the shared equipment is to permit the ILEC to recover from the competitive carrier the same amount that the ILEC assigns to its own provision of DSL on shared lines.¹³ This approach would ensure that the amount allocated to competitive providers is fair and reasonable. Under no circumstances should the amount allocated to the competitive carrier be greater than 50 percent of the cost of the shared equipment.

¹¹ Report and Order at ¶ 28 ("We . . . agree with commenters that this rule [requiring ILECs to permit collocation of any equipment necessary for interconnection or access to unbundled network elements] requires incumbent LECs to permit competitors to collocate such equipment as DSLAMS, routers, ATM multiplexers, and remote switching modules.").

¹² Notice at ¶ 106.

¹³ @link acknowledges that ILECs providing both voice and data over a single line currently calculate the loop costs for DSL services at \$0 per month. *Id.* at ¶ 106 n.226. However, @link believes that the suggested approach would provide incentives for the ILECs to propose a fair allocation of costs.

V. CONCLUSION.

Today, consumers who wish to obtain DSL services from a competitive provider such as @link but who wish to continue to receive voice services from the ILEC must bear the expense of a new line. Only the ILECs currently offer DSL services on lines shared with voice services. However, every twisted-pair copper line can support both G.Lite and voice services. By allowing competitive carriers to place a data signal on top of an ILEC's voice signal, the Commission would increase enormously the market potential for these carriers, resulting in more choices for consumers and the realization of one of the central goals of the Telecommunications Act of 1996 -- the availability of advanced services to all Americans.

G.Lite is well-suited, as a practical matter, to line sharing. The Commission should immediately mandate line sharing for the provision of G.Lite. Testing of G.Lite is underway and G.Lite will become available in the very near future. Hence, the Commission must act fast if the benefits of line sharing are to be realized for G.Lite. In addition, the Commission should mandate line sharing for other DSL technologies where line sharing capability has been either incorporated in applicable industry standards, implemented by an ILEC, or approved by a state commission.

Respectfully submitted,

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June 15, 1999