

Ultimately, even the VTP recognizes that "xDSL services appear ready to deliver that promise for high-speed digital services" VTP at 2-41. Accordingly, there is no credible basis for concluding DSL is not a viable mechanism for providing a high speed Internet access service.⁵⁴

3. Other High-Speed Telephone Technologies Are In Use Today

Frame relay offers high-speed Internet access at 56 kbps to 1.5 Mbps. Tr. 11/3/99, p. 190/ln 4 (Shapiro); Tr. 10/13/99, p. 249/ln 1-2 (Judkins). ATM service offers packetized data. Tr. 11/3/99, p. 192/ln 14 (Shapiro); Tr. 11/3/99, p. 193/ln 1 (Shapiro). ISDN services offers Internet access at "reasonably robust speeds." Tr. 11/3/99, p. 189/ln 14 (Shapiro); VTP at I-18. These technologies have been used by GOV.net and the schools for high-speed Internet access, VTP at 3-30, thus demonstrating the viability of these competitive options.

4. Other High-Speed Access Technologies Are Expected To Be Prevalent

a. Ka-Band and LEO Satellites

Ka-Band and LEO satellites are expected to offer still more high-speed Internet access competition. Tr. 11/3/99, pp. 202/ln 20 – 203/ln 19 (Shapiro). According to the Department's own witness, they may gain market share as rapidly or more rapidly that Direct TV has done with video. Tr. 11/3/99, p. 203/ln 20-24 (Shapiro).

b. Wireless

<<http://media.web.aol.com/media/press.cfm>>; *Telcos Defend DSL Strategy, Pledging Aggressive Rollouts*, COMMUNICATIONS DAILY, Mar. 18, 1999.

⁵⁴ See *LA Report at 14*. The LA Report finds that while the market for broadband Internet access service is nascent, there are no indications that cable operators can or will exercise market power. Accordingly, the Report rejects calls for forced access requirements.

Several wireless technologies have been identified as additional competitors for high speed Internet access.⁵⁵ For example, MCI WorldCom and Sprint Communications Company, L.P. (“Sprint”) have taken advantage of an FCC rule change (permitting two-way broadband wireless service)⁵⁶ to invest over \$1 billion to purchase and upgrade Multipoint, Multichannel Distribution Service (“MMDS”) (2.1-2.7 GHz) for broadband business and residential services.⁵⁷ Teligent, Inc. (“Teligent”) and WinStar Communications, Inc. (“WinStar”) offer a variety of broadband services to small and medium-sized businesses in several metropolitan markets in the Local Multipoint Distribution Service (“LMDS”) (28-31 GHz), 24 GHz; and 38 GHz bands.⁵⁸ Both companies have plans to further rollout their services to several new markets throughout the U.S. and have negotiated service contracts to serve large apartment and commercial complexes.⁵⁹ Nextlink Communications (“Nextlink”) is the largest holder of LMDS

⁵⁵ *LA Report* at 15; *Inquiry Concerning The Deployment of Advanced Telecommunications Capability*, Report, FCC 99-5 ¶¶ 35-61 (released Feb. 2, 1999); United States Internet Counsel, *The Explosion of High-Speed Internet Competition (USIC)* at January-June. (A copy was attached to Adelphia’s Reply Brief in response to hearing examiner’s questions).

⁵⁶ Previously, the Commission only licensed MMDS systems to provide one-way video services. In the fall of 1998, the Commission changed its licensing rules and permitted MMDS systems to offer two-way services, such as broadband access.

⁵⁷ *Broadband Today* at 22. Hoexeter’s CLEctive Notes, Issue #16, Goldman Sachs (July 1999). Following its purchase of WBS America in July, Sprint now has access to almost 30 million households nationwide. Sprint plans to offer its broadband product called ION (Integrated Online Network) over its MMDS systems. MCI WorldCom and Sprint announced their intention to merge. Press Release, MCI *WorldCom and Sprint Create Pre-eminent Global Communications Company for 21st Century* (Oct. 5, 1999), available at <<http://www.wcom.com/cgi-bin/pr/display.pl?cr/19991005>>. The combined entity plans to offer a unique nationwide broadband access alternative to both cable and traditional telephony through a combination of DSL facilities and fixed wireless access using the combined company’s nationwide MMDS spectrum.

⁵⁸ These fixed wireless providers have licenses operate at specific parts (or bands) of the spectrum. The following list details the various types of fixed wireless companies and their bands of operation: Multichannel Multipoint Distribution System (2.1-2.7 GHz); Local Multipoint Distribution Service (28-31 GHz); Teligent (24 GHz); and Winstar (38 GHz).

⁵⁹ *Broadband Today* at 27-30; see also, e.g., Salomon Report at 21; *Winstar To Provide Boston Properties With Advanced Broadband Telecommunications Services*, July 8, 1999, available at

spectrum in North America, with licenses covering 95% of the population in the top 30 markets in the United States.⁶⁰ Nextlink intends to use its wireless capabilities to extend the reach of the company's local fiber optic networks to soon offer an array of broadband services.⁶¹

c. Wired

Broadband wired competitors may also enter the market. SBC Communications, Inc. recently announced a \$6 billion initiative to make DSL service available to approximately 77 million people in 35 million homes and businesses – or over half of the entire cable universe in the United States – over the next three years.⁶²

In addition to the ILECs, a new type of CLECs has begun to focus on the high-speed Internet market. Covad Communications Company (“Covad”), Rhythms NetConnections Inc. (“Rhythms NetConnections”), and NorthPoint Communications Inc. (“Northpoint”) all have raised billions of dollars in their initial public offerings. These companies intend to target DSL services to small and mid-sized businesses, as well as to residential customers.⁶³

<www.winstar.com/PressRelease/78_boston_properties.htm>; <www.teligent.com>. According to some industry estimates, ILECs are failing to meet the data needs of 750,000 multi-dwelling units in the United States—needs that could be quickly and inexpensively addressed with broadband wireless services. *The 3G Force*, Red Herring No. 69 at 88 (Aug. 1999).

⁶⁰ Nextlink's Website at <www.nextlink.com/ra/info/rainfo.html>.

⁶¹ *Id.*; Salomon Report at 21.

⁶² *SBC Gambles \$6B on Broadband Play*, CableWorld, (Oct. 25, 1999) (available at <http://www.cableworld.com/articles/news99/1999102502.htm>).

⁶³ *Broadband Today* at 27 (citations omitted). For example, by year-end 1999, Covad plans to have its DSL service available nationwide to 26 million homes and 2.6 million businesses. *Id.* at 29.

The United States Internet Council recently released a study titled, "The Explosion of High-Speed Internet Competition."⁶⁴ The study lists several dozen technology and business headlines from the first six-months of 1999 to demonstrate the rapid advances and diverse deployments in providing high speed Internet access. The Council notes that the new study confirms its earlier assessment that "new technologies and services are being developed and deployed at an incredible rate, competition in all areas of the Internet is fierce, and the biggest threat to the continued growth of the Internet is government regulation." *Id.* at 1.

D. CABLE IS NOT IN ANY POSITION TO MONOPOLIZE THE INTERNET

1. Penetration is Low and Expected to Remain Low

PowerLink, has only 272 subscribers out of the 38,000 homes that PowerLink passes. That is only 0.7% penetration. Tr. 10/13/99, pp. 242-243 (Judkins). Adelphia is not committing to complete its upgrade on the entire State for PowerLink capability until 2003. Tr. 162/ln 24- Tr. 163/ln.1 (Hyrckiewicz).

John Judkins is the regional manager marketing and sales for Adelphia. He explained why Adelphia does not expect its PowerLink service to achieve more than 10% of the homes it passes. Price is the key issue. "I've talked -- spoken to several customers that it is a price issue. It's hard for them to justify spending what they are currently paying now, which can range anywhere from, in some cases, \$10 or \$15 a month up to -- I believe AOL is over \$20 a month, to make that jump up to \$35 a month to get the ISP high speed Internet access through Adelphia." Tr. 10/13/99, p. 257/ln 8-14 (Judkins).

⁶⁴ A copy of the Study was attached to Adelphia's Reply Brief in response to the hearing officer's questions.

Even additional marketing undertaken prior to the Board's hearing did not provide the anticipated lift in penetration. Tr. 10/13/99, p. 256/ln 24-25 (Judkins). Ultimately, the company expects future marketing not to be heavy because PowerLink will not be available throughout the market, so it cannot be advertised across the State. Tr. 10/13/99, p. 258/2-11 (Judkins).

2. Competition will be robust

When cable operators, such as Adelphia, market their cable modem service, they necessarily compete against all forms of Internet access. "We are in no position to monopolize the market. There is still an overwhelming and the -- the choice -- the default right now is Dial Up. We are merely giving a choice to the customers out there. We are in no position now nor do I feel we will be in years down the road to monopolize the market." Tr. 10/13/99, p. 261/ln 17-22 (Judkins). All serious market forecasts indicate that Adelphia's PowerLink will not dominate the Internet access market. In a report released in 1999, Pioneer Consulting predicted robust competition among different modes of accessing the Internet.⁶⁵ Pioneer anticipates a battle for market share between xDSL and cable modems to 2002, after which both should face significant competition from broadband satellites when global LEO satellites are in orbit and current DBS providers have launched their own Ka-band satellites. Mr. Shapiro agreed, under question from the Chairman, that the competition would be intense, with no discernable "first-mover" advantage to cable:

I don't actually believe that the first one there wins and then it's over. The race isn't over when the first one wins. The first one does win, he gets the business first, but it's very competitive. It's very dynamic. It's probably more -- Internet is probably more dynamic than

⁶⁵ Cited in Adelphia's Comments On Final Draft Of Vermont Telecommunications Plan.

anything we have ever seen, and I believe that the race will continue to go on after the first one wins. However, I think the first one there will win in a qualified way, they will win that customer first. I don't think the race would be over.

Tr. 11/3/99, pp. 208/ln. 23 – Tr. 209/ln. 21 (Shapiro).

Even if there were no other providers of high speed Internet access, cable operators' market power would be curbed by robust competition from conventional Internet service providers. Even in this highly competitive environment, the number of dial-up subscribers is expected to more than double over the next 4 years to 60 million, despite the growing presence of high-speed data alternatives. AOL's Steve Case has predicted that most of its business will continue to be narrowband. "The mass market will continue to adopt the narrowband service as the entry point because it will be easier to install and less expensive to use. Some of those customers, maybe 25%, will pay extra for faster access. Broadband will be like first class is to the airlines." Steve Case, 11/9/98, Electronic Media, page 4, 4th Para.

3. Market Investment Confirms That Cable Has No Guarantee Of Market Dominance

As major investment houses (Merrill Lynch, Donaldson, Lufkin & Jenrette, Paine Webber, and First Boston Credit Suisse) recently explained to the FCC, the willingness of investors to pour "tens of billions" of dollars into phone companies' xDSL, wireless, utility companies, satellite and "is clearly signaling that [the market] believes many competitors have a realistic chance of offering high-speed, broadband Internet access."⁶⁶

Mr. Shapiro agreed:

⁶⁶ Joint Letter to FCC Chairman Kennard from investment community representatives (Credit Suisse, DLJ, Merrill Lynch, Paine Webber) p.2 (December 18, 1998). (Cited in Adelphia's Comments On Final Draft Of Vermont Telecommunications Plan).

Q. So, you would agree that the investors in these technologies are at least betting that cable will not be the monopoly provider of broadband Internet access?

A. Yes. Although I don't think I would characterize it in terms of betting, but I agree.

Tr. 11/3/99, p. 207/ln 17-20.

4. It Is "Premature" To Consider Cable Modem Service As A Monopoly

The FCC has repeatedly found that it is "premature" to consider cable modem service as a monopoly.:

[T]here are approximately 40 million residential Internet subscribers in North America, approximately one million of whom subscribe to broadband Internet services. It is important to remember that residential broadband Internet subscribers constitute less than 3% of the total Internet subscribers in North America. Although the Bureau expresses no view on whether the residential broadband market is a separate market from the residential narrowband market, a comparison of the numbers between the two is instructive to appreciate the relatively small scale of residential broadband deployment. Even the most optimistic estimates predict that narrowband will still be the dominant subscribed form of Internet access by 2005. One analyst predicted that by 2005, cable will have 34% (23 million subscribers) of the Internet access market, with DSL at 15% (10 million subscribers), and dial-up narrowband at 51%, or 35.7 million households. *Broadband Today* at 32.

Mr. Shapiro agreed that it was "premature to declare cable the winner of this competition. He reviewed the FCC's letter to the LSGAC (Exh. Adelpia 34) rejecting a request for forced access: "While some consider cable to have a lead at this time, it is premature to conclude either that such a lead will last or that its current position amounts to a monopoly." He was asked:

Q. Do you agree with the first sentence on the second page?

A. The cable -- that it's premature to make a conclusion?

Q. Yes.

A. Well -- well, yes. Okay. I can agree with that.

Tr. 11/3/99, pp. 228/ln. 16 – Tr. 229/ln. 13 (Shapiro).

5. There Is No Empirical Basis For a Contrary Conclusion

Mr. Shapiro and Mr. Brown have opined that PowerLink will nonetheless dominate the market. The opinion of Mr. Shapiro is not based on any market analysis or empirical data. Mr. Shapiro is not an economist, and had not familiarized himself with even the rudimentaries of market analysis: number of ISPs, price of competitive offerings; demand for higher-speeds for various applications. Tr. 11/3/99, p. 170/ln 1 (Shapiro). He did not look for market surveys or surveys of any kind. Tr. 11/3/99, p. 180/ln 1-10; Tr. 11/3/99, p. 182/ln. 5 (Shapiro); Tr. 11/3/99, p. 183/ln 22 (Shapiro). After some equivocation, he admitted that he did not do a survey of his own. Tr. 11/3/99, pp. 180/ln 11 – 181/ln 24 (Shapiro). He admitted that Adelphia does not have a monopoly today. Tr. 11/3/99, p. 172/ln 13-14 (Shapiro) (“I did not claim that Adelphia has a monopoly today.”) He admitted that many could not “afford pay \$40 instead of \$20 for Internet access.” Tr. 11/3/99, p. 174/ln 5-8 (Shapiro). He admitted that one of the most popular applications — e-mail — does not even require high speed access. Tr. 11/3/99, p. 175/ln 20-21 (Shapiro). He could not explain why a monopoly share of the market would give up free Internet access, such as that provided by Altavista, for one which costs \$40/month. Tr. 11/3/99, pp. 174/ln 23 – 175/6 (Shapiro). When asked by the Board to defend his projections, he could not. Instead, he fell back on his bedrock feeling that not having a mandatory “choice” of ISPs over PowerLink, at a more favorable price, was non-competitive. That sort of regulatory intervention in the business

of a new, non-dominant ISP, is wholly unjustified – particularly when premised solely on Mr. Shapiro’s uniformed “feeling.”⁶⁷

As noted, while Mr. Shapiro posited a stampede of a monopoly market share to PowerLink, he had not thought about price sensitivity. In fact, no proponent of forced access had bothered to conduct research about Vermont consumers’ willingness (with an average income of \$26,624 per year)⁶⁸ to pay for PowerLink, as opposed to other alternative paths to the Internet. Tr. 11/17/99, pp. 101/ln 3 – 102/ln 25 (Brown). The best that could be marshaled was that after four years “maybe” 10% of cable subscribers in Maine were subscribing to cable modem service — not even 10% of the total market. Tr. 11/17/99, pp. 105/ln 11 – 106/ln 15 (Brown); Tr. 11/17/99, p. 145/ln 23 (Brown). Confronted by expert FCC market analysis, witnesses simply retreated to “professional disagreement”—with no empirical foundation. Tr. 11/17/99, p. 108/ln 5-6 (Brown); Tr. 11/3/99, pp. 232-233 (Shapiro). Some speculated that because Vermont has local measured service, customers would be more likely to select PowerLink to save the cost of a second line. Tr. 11/17/99, p. 121/ln 5-25 (Brown). However, the evidence is to the contrary: Local measured service has had no impact on Internet penetration in Vermont, which remains right at the national average. Tr. 11/3/99, pp. 170/ln 22 – 171/ln 14 (Shapiro). Mr. Brown even speculated that Adelphia could achieve a monopoly position

⁶⁷ Q. What I do care about is whether cable companies have so much market presence that there needs to be regulatory intervention. Do you think that the cable companies are likely by 2005 to have a degree of market presence that requires regulatory intervention?

A. I also think that if the model is going to be that you choose your service provider with your pipe and your choice is limited only to the pipe/service provider and you have three or four providers, one for each type of service, that that's not going to be truly competitive. Tr. 11/3/99, pp. 234/ln 21 – 235/ln 18 (Shapiro).

⁶⁸ See Vermont Dep’t of Employment & Training, Labor Market Information <http://www.det.state.vt.us/~detlmi/twnind/indstate-intro.cfm>.

by providing better customer service than Bell Atlantic. Tr. 11/17/99, p. 122/ln 19-25 (Brown). Yet, imposing forced access based on that rationale would be a classic example of punishing a competitor for offering superior quality service, where there is no evidence of market power.

Mr. Shapiro admitted to every element that makes for a competitive market that Adelphia is not likely to dominate: There are a variety of robust competing vehicles for Internet access, including DSL and Direct PC, with whom AOL has reached alliances, ISDN, and frame relay. Tr. 11/3/99, pp. 186-87 (Shapiro); Tr. 11/3/99, p. 202/ln 13-19 (Shapiro); Tr. 11/3/99, p. 203/ln 2-4 (Shapiro); “America Online, Inc. Announces Key AOL TV Partnership” at <http://media.web.aol.com/media/press> (DirectTV); “America Online and Bell Atlantic Form Strategic Partnership to Provide High Speed Access for the AOL Service” at <http://media.web.aol.com/media/press> (DSL); Tr. 11/3/99, p. 189/ln 14 (Shapiro); VTP at I-18.; *see also* Tr. 11/3/99, p. 190/ln 4 (Shapiro); Tr. 11/3/99, pp. 192/ln 14 – 193/ln 1 (Shapiro) (ATM offering packetized data). Bell Atlantic is deploying DSL, at speeds of 6 megs, sooner than they had even reported in preparation of the VTP. Tr. 11/3/99, p. 193/ln 9-14 (Shapiro); Tr. 11/3/99, p. 202/11 (Shapiro). A great deal of R&D is going into overcoming the distance limitations of DSL. Tr. 11/3/99, pp. 198/ln 19 – 199/ln 7 (Shapiro). ILECs will respond to cable competition by building their own highspeed offering. Tr. 11/3/99, pp. 199/ln 19 – 200/ln 4 (Shapiro). Ka-Band and LEO satellites are expected to offer still more high-speed Internet access competition. Tr. 11/3/99, pp. 202/ln 20 – 203/ln 19 (Shapiro). Such satellites may gain market share as rapidly or more rapidly than Direct TV has done with video. Tr. 11/3/99, p. 203/ln 20-24 (Shapiro). “There are many alternatives to cable as an infrastructure.” Tr.

11/3/99, p. 206/ln 15 (Shapiro). Investment is pouring into these alternatives. “Everyone is racing for broadband.” Tr. 11/3/99. P. 207/ln 3 (Shapiro).

Just as the high-speed Concorde does not have a monopoly among trans-Atlantic air carriers, Tr. 11/3/99, p. 176/ln 14 –24 (Shapiro), AOL’s Chairman and the FCC’s Chairman agree that high-speed cable modems will not monopolize the market for Internet access.

Confronted with that prediction, Mr. Shapiro simply tried to cast doubts on Mr. Case’s and Mr. Kennard’s motives. ; Tr. 11/3/99 p. 179/ln 15-19 (Shapiro) By contrast, he professed 100% confidence in his own ability to see the future.; Tr. 11/3/99, pp. 203/ln 25 – 204/ln 2 (Shapiro) (“Q. You have some doubts about your ability to see the future? A. No I don’t.”). Despite his self-confidence, ultimately, he could not empirically defend his proposition that cable was foreordained to monopolize the market. All of his admissions contradict his conclusion, and in the end, he gave up his premise:

Q. Do you think that the market would pour money into these other non-cable technologies if cable was foreordained to monopolize high speed broadband Internet access?

A. No.

Tr. 11/3/99 p. 207/ln 5-9 (Shapiro)

In short, Adelphia’s PowerLink provides choice, it does not deny choice.

Q. If this Internet access is so much trouble, why is Adelphia entering into the market?

A. We are providing a choice to the consumers there for access to the Internet.

Q. A choice of broad band access?

A. A choice of service. There's several out there. One is Dial Up. Another would be Adelphia. There is -- I have no reason to believe that DSL won't here soon. But it's just merely another choice for our -- for consumers in Vermont.”

Tr. 10/13/99, p. 260/ln 8–17 (Judkins).

E. POWERLINK DOES NOT REQUIRE CUSTOMERS TO “PAY TWICE”

1. No ISP Discounts Its Service Merely Because Selective Content Providers (Or ISPs) Charge A Fee For Accessing Content On The Web

Cable modem service has been attacked for "making customers pay twice" – once for the cable modem service, and again for AOL's “Bring Your Own Access” (“BYOA”) service. The charge is false. Very few Internet-based content providers charge consumers to use their content. Yahoo, Excite, ESPN, MSN, MSNBC, Microsoft, Netscape, Time, and the New York Times, for example, all provide extensive, quality content for free, no matter how you access the Internet.⁶⁹ All content offered by Yahoo, MSN, or other ISPs is free to customers who bring their own access. Some ISP’s offer all of their services, including dial-up Internet access, for free. Tr. 11/3/99, p. 175/ln 17-18 (Shapiro). In all of these cases, a cable modem customer would not “pay twice” for Internet access.

AOL is the exception. AOL charges a standard \$21.95 monthly price. Customers who "bring your own access," from any other ISP, must still pay \$9.95. However, no ISP discounts its service merely because selective content providers (such as AOL) charge a fee for accessing content on the web. Tr. 11/3/99, p. 166/ln 1-15 (Shapiro); Tr. 11/3/99, p.

⁶⁹ See, e.g., <<http://www.yahoo.com>>; <<http://www.excite.com>>; <<http://espn.go.com>>; <<http://www.msnBrown Cross Tr.com>>; <<http://www.microsoft.com>>; <<http://www.netscape.com>>; <<http://cgi.pathfinder.com/time>>; <<http://www.nytimes.com>>.

168/ln 2-4 (Shapiro). Adelphia's unwillingness to reduce its price by the amount that web content providers charge their customers is not making customers "pay twice." "They have all the access of every other ISP It would be the same if somebody who subscribed to Together Net wanted to have access to AOL, they would still be required through a dial-up -- in a dial-up scenario, they would still be required to pay AOL that additional fee." Tr. 10/13/99, p. 270/ln 1-7 (Judkins).

2. "Bundling" And Other Strategic Alliances Is Commonplace In Internet Commerce.

AOL's model of access requires customers to enter the Web through the AOL "portal," and wade through multiple screens of AOL in order to guarantee that they are exposed to AOL's advertisers, menus, and hyperlinks to exclusive vendors.⁷⁰ The FCC has noted that AOL refuses to sell pure dial-up access without its own front-end screens and content. AOL has obviously combined advertising with subscription fees for its business model.

The combination has been predicted by video economists. Tr. 11/3/99, pp. 292/ln 9 – 293/ln 10 (Shapiro). Basic textbooks on video economics make this clear. "The first and most serious mistake that an analyst of the television industry can make is to assume that advertising-supported television broadcasters are in the business to broadcast programs. They are not. Broadcasters are in the business of producing audiences." Bruce M. Owen and Steven S. Wildman, *Video Economics* (1992), p. 3. "Broadcast networks produce audiences to sell to advertisers. They might charge viewers in addition to or instead of advertisers, just as cable networks do. This might involve conversion of over the air broadcast to pay broadcasts using scramblers already developed by cable, or

perhaps dual broadcast of programs -- by cable without ads for pay and over the air with ads and without viewer charge." Video Economics, p. 204.

3. The Market Is Experimenting With Different Economic Models

The market is experimenting with different economic models for the Internet, trying to develop advertiser supported model, and multiple revenue stream economics. The combination of services in web commerce is commonplace today. Bell Atlantic charges \$20 less for Internet capable DSL when purchased with AOL than without. Tr. 11/3/99, pp. 290/ln 24 – 291/ln 4 (Shapiro). Compuserve (an AOL property) is bundled with new computers. Tr. 11/3/99, p. 291/ln 5-10 (Shapiro). Computers are discounted—even to zero—if customers use a favored ISP. Tr. 11/3/99, p. 291/ln 11-20 (Shapiro). Combining different revenue streams in Internet commerce is not different in kind from combining advertising revenues and subscription fees in order to underwrite basic cable television programming. What the Department is proposing is to impose its own view of the appropriate “bundle” of services and its own view of the revenue support for those services, rather than allowing the market to develop commercial solutions.

4. An “Open Access” Order Will Distort The Evolving Economic Structure Of The Internet

An “open access” order will distort the evolving economic structure of the Internet. At this early stage of Internet development, OSP costs are recovered from both monthly subscriber charges and advertising revenues. This is one reason that AOL refuses to sell pure dial-up access without its own front-end screens and content; why Bell Atlantic and SBC charge \$20 less for Internet capable-xDSL when purchased with

⁷⁰ *TCI-AT&T Transfer Order* at ¶ 65.

AOL than without; and why many providers of high-speed Internet services do not charge the full cost of the necessary equipment, in order to achieve greater penetration of "viewers." To force only one economic model onto the Internet, in which transportation must be priced independent of content or advertising, would significantly distort the developing market for Internet services and may have a severe negative impact on consumer Internet service options. Given today's constraints on customers' willingness to pay for web content, "unbundling" cable modem "transportation" and content may result in high access charges and low content charges—just as PCs today cost \$400 more if you buy them *without* pre-subscribed Internet access. It is doubtful that consumer savings would result.

Adelphia has not curtailed its customers access to anything on the web, or filtered any web site, and has disclaimed any intention to do so. Tr. 10/13/99, pp. 88-89 (Kent); Tr. 10/13/99, p. 90/ln 22-25 (Kent). Nor has Adelphia foreclosed itself to allying its PowerLink service with other ISPs. What it seeks is the freedom which other Internet parties have to strike a business relationship in the open, vigorous, rapidly-changing market—as all other players may. As Mr. Kent explained:

I guess our position as a company is that what we object to is being forced to open our network to, say, other ISPs. And this is primarily what the open access argument is about. It's about Internet -- Internet providers gaining access to our network and treating our network as a common carrier. You know, we oppose that. If we as a company, though, choose to, because of market conditions or for business reasons, to enter into some kind of agreement, you know, let us make that decision. Let the marketplace make the determination and not have it be something that is regulated or forced upon us by a regulatory board, whether here or in any other part of the country.... This is a brand new technology. It is changing and growing daily. No one quite knows how it's going to -- the end result is going to be. And I would encourage the Board to let the marketplace take a position on it rather than have it be regulated.

Tr. 10/13/99, pp. 75/ln 2-17 – 76/ln 1-7 (Kent).

F. PRACTICAL EFFECT OF “OPEN ACCESS” ON POWER LINK

1. Even In An “Open Access” World, Adelphia Would Remain Responsible For The Customer Interface

From a consumer’s point of view, there is no difference in the current model of access, in which all web content is available through the interconnections developed in the market place, and “open access” at a different physical point of interconnection. The same content is available at the same speeds. E-mail accounts can be established with multiple accounts from multiple servers, with the customer choosing the preferred provider. Tr. 11/3/99, pp. 159/ln 20 – 160/ln 1 (Shapiro). The customer would continue to rely on the cable operator (who owns and maintains the physical plant) to troubleshoot and repair any service outage. Tr. 11/4/99, pp. 34-37, 109-110 (Shapiro); Tr. 10/13/99, pp. 259/ln 23 – 260/ln 3 (Judkins). The customer can subscribe to any ISP—whether that ISP charges, as does AOL, or provides service for free, such as Altavista.

When pressed to explain what harm was being overcome, the Department’s witness could not identify one. Instead, he fell back on the fallacy that the customer was required to “pay twice.” As explained above, what customers pay for access to any web site is a marketplace choice between that provider and that customer. No ISP discounts its service to account for charges that selected web sites might assess on those who seek its content.

On the other hand, there are significant technical, business, and regulatory hurdles which would need to be overcome to create a regime of “open access.”

2. Technical Impediments to Forced Access

Mr. Sullivan, Adelphia’s Senior Director of High Speed Data of Operations, explained why open access cannot be implemented with a “flick of the switch.” Tr.

10/13/99, pp. 213/ln 1-12 (Sullivan). He diagramed some of the problems for the Board at the hearing. Tr. 10/13/99, pp. 218 – 231 (Sullivan). He explained, “Routing is one small piece for open access. There are a host of other issues that I outlined in my prefiled testimony. Routing, again, is just a small piece. There is the IP addressing and usage, the network management side, there's a scalability, there's many issues that need to be reviewed, a technical plan needs to be implemented and actually tested before we get to the point where we can just flick a switch and have open access work.” Tr. 10/13/99, p. 213/ln 4-12 (Sullivan).

Adelphia currently has responsibility for “the provisioning process itself. We actually provision the MAC address, hardware address, at our provisioning server at the headend first before we do the actual physical hands-on installation.” Adelphia, like other components of the Internet, is assigned “internal” Internet addresses for intra-system communications. These same addresses may be used by other ISPs, but contention arises if there are interconnected “inside” the system, rather than as they are today. “Adelphia applies for its public and private IP addressing with the American Registry for Internet numbers. And based on the IP numbers that we are provided, that's how we use -- that's what we use in our routes, what we advertise to the world.” Tr. 10/13/99, p. 216/ln 1-6 (Sullivan). In a world of forced access, one has to devise a method to assure that return data is routed *along the subscribing ISP's facilities upstream of the headend*, rather than Adelphia's. Tr. 10/13/99, p. 220/ln 1-6 (Sullivan); Tr. 10/13/99, pp. 228/ln 14 – 229/ln 2 (Sullivan). (Otherwise, ISP A through N will get a free ride on all of Adelphia's peering and transit arrangements). One has to make arrangement for pre-provisioning. “You manually store the user's name and the MAC address in our server for management

purposes. Later, in the event we have to trouble shoot this user, we will know exactly where that -- the cable modem is. Again, the issue is -- the open issue is; is this for open access? Is -- do we use our server or do we use ISPA through N, DACP server? And how would that entire process work?" Tr. 10/13/99, p. 221/ln 6-12 (Sullivan).

Unlike telephone modems, cable modems use shared bandwidth on the cable system. There is no means to prevent one ISP's customers from consuming the bandwidth which another ISP's customers also need. There is no ready model for traffic engineering, dispatch, trouble shooting, network fault isolation, or customer software updating and modification. The Canadian CRTC ordered "open access" in 1996. After three years of testing, the technical "solution" is still in testing. The "GTE Experiment" referred to by Mr. Brown and Mr. Shapiro, involved a very small number of ISP's, was never subjected to peer review, and was ridiculed in the trade press as a public relations stunt rather than an engineering solution. Nothing Mr. Sullivan knew of was "actually up and working." Tr. 10/13/99, p. 192/ln 17-19 (Sullivan).

The business issues — such as provisioning, troubleshooting, customer software updating and the others identified in Mr. Sullivan's prefiled testimony, remain unresolved. For example, who handles the calls to Adelphia for customer assistance with an independent ISP's access? Tr. 10/13/99, p. 255/ln 4-10 (Judkins). The CRTC has pending 40 pages of unresolved business issues. Tr. 11/4/99 p. 37/ln 14-16 (Shapiro); "Third Party Residential Internet Access: Business Interface Requirements Specifications," Sept. 10, 1999 Canadian Cable Television Assoc. Report at www.crtc.gc.ca/ENG/PROC_REP/TELECOM/1998/8638/C12-17.html.

These are not pretenses. Adelphia is not the Bell System fighting Carterfone. Adelphia has never contended that the engineering issues are insolvable. What it has contended is that addressing resources to solve them in today's market would consume the very resources being used to upgrade networks and to roll out a competitive product. "In terms of resources, we have a finite set of resources that we are using for our DOCSIS rollout right now. If we are spending time on the open access question, we are not spending time in our DOCSIS rollouts." Tr. 10/13/99, p. 221/ln 22-23 (Sullivan). What Adelphia finds insurmountable is "the resources and the cost to implement open access in a timely fashion." Tr. 10/13/99, p. 191/ln 11-12 (Sullivan). On cross-examination, Mr. Sullivan amplified:

Q. Okay. Now, when you answered my question about the technical issues being insurmountable, am I correct that it's just a question of needing to spend money to resolve those issues?

A. No. It's a question of resources on a testing, coming up with a plan, implementing that plan, all of which have a cost.

Q. But it's nothing that money can't -- you can spend money and you can take care of all of these technical issues; is that correct?

A. With an infinite amount of resources and money, that's probably true.

Q. Is it your understanding that open access would require you, Adelphia, to pay all the costs of opening up their system?

A. I don't know where the cost is going to come from to support open access.

Tr. 10/13/99, pp. 194/ln 23 – 195/ln 1-9 (Sullivan).

Today's market does not provide infinite resources or infinite money. The FCC's Cable Services Bureau has explained how technical expertise is in particular short supply

amidst the massive deployment of competing broadband architectures. “One of the greatest logistical obstacles to the deployment of distribution systems is the shortage of engineers and the limited infrastructure necessary to physically create and deploy these systems.” Broadband Today at 39.

Adelphia’s cable system is engineered to be a series of Virtual Local Area Networks, or VLANs. Tr. 10/13/99, pp. 227/ln 21-228/ln 5 (Sullivan). We submit that if making LAN’s open to unlimited ISPs were so easy, and can be accomplished with the flick of a switch, then GOV.net itself would provide such a choice. Instead, the Department has to use the one ISP selected by GOV.net for the entire LAN, rather than providing the “chosen” ISP at each workstation. The individual can use that ISP to log onto the home page of any other ISP. This is precisely how PowerLink is designed. Mr. Shapiro was completely unable to explain why Adelphia should be made the guinea pig for his proposals, which the State itself has not chosen to adopt. Tr. 11/3/99, pp. 244/ln. 3 – 248/ln. 7 (Shapiro).

Witnesses testifying in favor of “open access” conceded that Adelphia may have to re-engineer its node sizes, Tr. 11/3/99, pp. 104/ln 9 – 106/ln 8 (Shapiro) and that they had not accounted for many issues which arise in an “open access” regime. Mr. Shapiro changed his testimony several times. His pre-filed written direct proposed setting aside 6 MHz for each ISP. He reversed himself on pre-filed Surrebuttal, because he was “operating under a false assumption.” Tr. 11/3/99, p. 248/ln. 11-17 (Shapiro). His new assumption was that Adelphia could make forced access work with the “flick of a switch.” Tr. 11/3/99, p. 248/ln 20 (Shapiro). Yet, his “research” consisted in partially-remembered telephone conversations with individuals who were not made available for examination; who are not employees of the State; who are not regularly consulted in the

course of his duties; who are, in fact, interested parties in contested cases. Tr.11/3/99, p. 248-254 (Shapiro). He did not even know what some of these people did for a living. Mr. Shapiro, by his own admission is not a data network expert. He is not an engineer. His college work in packet-switching was pre-Internet and pre-cable modem. He even declined to designate himself the State's expert in Internet. Tr. 11/3/99, p. 204/ln 13-17 (Shapiro). He does not have experience in cable television engineering or operations. When asked at deposition to detail the very conversation on which he was relying for his testimony, he could not recall the "technical" parts—although that is the heart of the very conversation on which he is relying.

Mr. Shapiro is a man of dogged opinion. When he finds the answer he wants, he goes no further. He never thought about or asked who would be responsible for fault isolation or troubleshooting. Tr. 11/3/99, p. 256/ln 3-5 (Shapiro). He never asked about IP allocation until after his deposition and the day before his testimony. Tr. 11/3/99, pp. 255/ln 24 – 256/ln 1 (Shapiro). He wrote in the VTP that "Overloading of servers, switches, and network connections may be exacerbated by unbundling and interconnection of competitive service providers." VTP at 2-28. But he was never willing to accept that the same problem could arise in cable. Tr. 11/3/99, 256/ln 6-10 (Shapiro). He never dealt with allocating spectrum among ISPs to prevent one ISPs customers from consuming capacity or speed intended for another's. Tr. 11/3/99, 259/ln. 4-12 (Shapiro). He claimed to have read what he could about the GTE experiment, but seemed to have neglected or forgotten one of the most famous critiques: that by PC Week (July 12, 1999 at 76), a journal to which he subscribes, in which the GTE "experiment" is derided: "This demonstration . . . was done with all the technical savvy of Ma and Pa

Kettle using a tin can and string.... The way in which AOL and GTE propose provisioning the cable plant looked like the work of fiendish elves who have been drinking lots of Jolt cola.” Tr. 11/3/99, pp. 259/ln 13 – 260/ln 12 (Shapiro). He did not even check whether the GTE “experiment” was even subjected to peer review. Tr. 11/3/99, 261/ln 3 (Shapiro)(errata corrected); Tr. 11/17/99, p. 113/ln 2-5 (Brown). He simply took GTE’s press gambit at face value because he wanted to believe it. He chose to believe that Canada had solved the problem without even looking at the submissions to the CRTC documenting the myriad unresolved issues—from business issues to the incapacity of the shared “platform” to handle broadcast transmissions. Tr. 11/3/99, p. 262/ln 2-12 (Shapiro). He did not offer technical solutions in his testimony to address the “processes” that would need to be undertaken to make even his version of forced access work. Tr. 11/3/99, 271/ln. 7 (Shapiro).

He is selectively informed. For example, he claimed to be fully familiar with FCC rulings in the area, but just skimmed the definitive FCC report on the subject. Tr. 11/3/99, 231/ln 23 (Shapiro); and did not know about FCC’s creation of the Advisory Commission on this very subject. Tr. 11/3/99, 237/ln 8-13 (Shapiro).⁷¹ Likewise, he informs this Board selectively. For example, he did not disclose in his testimony that the FCC had rejected his position and the evidence on which he relied. Tr. 11/3/99, 221/ln 16-19 (Shapiro).

Mr. Shapiro may be an “advocate,” as the Chairman has said. But on this record, he may not be relied upon as a vehicle to sanitize untested hearsay. His advocacy is purely that: untested, unverified, partisan opinion, without the expertise or evidence to sustain it.

3. The Board Will Face An Set Of Overwhelmingly Complex Regulatory Issues

a. The experience with “unbundling” the ILEC Network

The Board will be plunged into the thicket of regulation if it embarks on an “open access” condition. The VTP notes, and the Department’s witness conceded, that there were delays and “vast disagreements” in “opening” the ILEC network, pricing access to its unbundled components, and litigating the differences. VTP at 3-7-3-8; Tr. 11/3/99, 272/ln 5 – 273/ln 9 (Shapiro); *see also*, Tr. 11/17/99, pp. 108/ln 16 – 109/ln 4 (Brown).

b. The problem with regulating the price of Internet transport

On the pricing side, one cannot simply declare that prices must be non-discriminatory. Adelphia is PowerLink, and vice versa. It is not “offering” a price to itself for transport, and none of the witnesses for “open access” have volunteered that ISPs will be responsible for any of the activities which Adelphia undertakes to provide the service: investment, design, maintenance, upgrade, node design, web caching, traffic monitoring and so forth.

How is the State to define a “non-discriminatory” price? The Department recommended providing a “commercial leased access” (“CLA”) rate. But Mr. Shapiro conceded on cross that the CLA rate does not provide any compensation for the costs of open access. Tr. 11/3/99, p. 271/ln 19-25 (Shapiro). At the FCC, Mindspring, SBC, and US West asked for cost-of-service rate regulation of the “wholesale” price,⁷² with all of the attendant difficulties of cost allocation and rate regulation. Mr. Brown made the same recommendation to this Board. Tr. 11/17/99, p. 139/ln 5-13 (Brown). This effort to impose

⁷¹ Has not even tried PowerLink or a DOCSIS modem. Tr. 11/3/99, p. 164/Ln.17-22.

⁷² Comments of Mindspring in CS Docket No. 98-178, at 17; Comments of SBC-PacBell in CS Docket No. 98-178, at 15 n. 50; Comments of US West in CS Docket No. 98-178, at 29.

rate base rate of return regulation on Internet access is precisely the regime which the VTP and the Department's own witness declares to be contrary to the proper incentives for investment and innovation. "Traditional regulation does not provide a strong incentive for companies to control their costs or to develop and market the advanced telecommunications services that are so important to economic development." VTP at 1-12; Tr. 11/3/99, pp. 273/ln. 5 – 274/ln 7 (Shapiro).

c. The Problem With Regulating The Terms And Conditions Of Service

How is the State to define non-discriminatory "service?" Should the comparative ping times be monitored? How would we monitor the roundtrip times of URL requests? Would it be permissible for any web merchant to buy preferred "shelf space" on the web from Adelphia as they do in bricks and mortar sites? Or would Adelphia—a market participant of only 0.7% share—find itself the only web participant unable to enter into such commonplace arrangements. It is also routine for on-line service providers such as AOL to reach exclusive agreements with vendors in particular goods and services. For example, if an AOL or MSN customer clicks on "Buy books," the hyperlink will send them exclusively to Barnes and Noble, rather than to amazon.com, Borders, or any other web-based book vendor. AOL has exclusive agreements with selected providers for local news and entertainment; music, videos and CDs; computer and software buying guides; paging; long distance; a cyber-mall; online groceries; CBS News; and credit card products and services.⁷³ But the Department would deny Adelphia the same ability to enter the same arrangements as its competitors.

⁷³ See, e.g., "America OnLine reports FY99 Third Quarter Income, Fully Taxes, Excluding Netscape and One-Time Evens, of \$117 Million, or \$0.11 per share" at <http://media/web/aol.com/media/press> (citing record-setting agreement with FirstUSA); "AOL Announces Three-Year Internet Telephony Agreement

d. The Practical Difficulties Of Addressing These Problems

If it were to follow the Department's and Burlington's proposals, the State would undoubtedly find itself in the middle of rate regulation of Internet access; and policy-making over the terms and conditions of every aspect of web commerce. The Chairman of the FCC explained how difficult these issues will be to resolve.

I also know that it is more than a notion to say that you are going to write regulations to open the cable pipe. It is easy to say that government should write a regulation, to say that as a broad statement of principle that a cable operator shall not discriminate against unaffiliated Internet service providers on the cable platform. It is quite another thing to write that rule, to make it real and then to enforce it. You have to define what discrimination means. You have to define the terms and conditions of access. You have issues of pricing that inevitably get drawn into these issues of nondiscrimination. You have to coalesce around a pricing model that makes sense so that you can ensure nondiscrimination. And then once you write all these rules, you have to have a means to enforce them in a meaningful way. I have been there. I have been there on the telephone side and it is more than a notion. So, if we have the hope of facilitating a market-based solution here, we should do it, because the alternative is to go to the telephone world, a world that we are trying to deregulate and just pick up this whole morass of regulation and dump it wholesale on the cable pipe. That is not good for America.⁷⁴

with Net Zphone for AOL Instant Messenger" at <http://media/web/aol.com/media/press/phone/ax/messaging>); "AOL, Inc. & Riffage.com Announces Comprehensive Digital Music Distribution Agreement" at <http://media.web/aol.com/media/press/music>); America OnLine, Inc. and blockbuster Inc. Launch Multi-Year Strategic Alliance" at <http://media/web.aol.com/media/press/moviesandentertainment>); "America OnLine Names CBS News Its Exclusive Broadcast News Partner on aol.com" <http://media/web.aol.com/media/press/news>); "America OnLine and NetGrocer Announce Exclusive Multi-Year Agreement to Offer Net Grocer Nationwide Online Supermarket Shopping" at <http://media/web.aol.com/media/press/onlinegroceries>).

⁷⁴ CONSUMER CHOICE THROUGH COMPETITION," Remarks by FCC Chairman William E. Kennard at the National Association of Telecommunications Officers and Advisors 19th Annual Conference, Sep. 17, 1999 (visited Nov. 8, 1999) <<http://www.fcc.gov/commissioners/kennard/speeches.html>>.