

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Inquiry Concerning High-Speed) GN Docket No. 00-185
Access to the Internet Over)
Cable and Other Facilities)

**COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION
IN RESPONSE TO THE NOTICE OF INQUIRY**

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EXECUTIVE SUMMARY

The Telecommunications Industry Association (TIA) is the principal industry voice for communications and information technology suppliers. TIA supports public policy that is technology-neutral and that encourages investment in the national communications infrastructure. The comments that follow stem from TIA's fundamental belief that government should refrain from imposing regulatory regimes on still evolving high-speed and broadband access platforms and services. For example, TIA continues to support the Commission's standing policy of not mandating a regulatory open access requirement on cable operators' provision of residential high-speed Internet access via their cable networks. A Commission decision to maintain such a policy is wholly appropriate because:

- The decision as to whether to impose a government-mandated open access regime on cable operators is not just a matter of regulatory policy, it is a matter of economic policy because it will affect the evolution of the Internet, which has driven the phenomenal economic expansion over the last 5 years, primarily through the productivity channel.
- Residential high-speed Internet access platforms and services are still evolving.
- No access platform or service currently demonstrates a level of market power or dominance in the provision of residential high-speed Internet access service to justify regulatory intervention.
- Regulatory intervention through the imposition of open access regulation on the cable platform, or any other platform for that matter, likely would slow the development of high-speed residential Internet access technologies.
- Competition in the market is driving deployment of high-speed Internet access technologies. Across the nation, DSL providers very frequently are rolling out their high-speed services in response to cable modem service becoming available, and *vice-versa*.
- Cable operators have made good faith expressions of their intentions to allow multiple Internet Service Providers (ISPs) access to their networks and are testing technologies to facilitate such multiple access. Even if the Commission believes that open access is in the public interest or is sound public policy, regulatory intervention at this time certainly would be premature.

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The Telecommunications Industry Association (TIA), pursuant to Section 1.415 of the Commission's Rules,¹ hereby submits the following comments in response to the *Notice of Inquiry* in the above-captioned proceeding.²

I. INTRODUCTION

TIA includes among its membership over 1,000 large and small companies that manufacture and 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. TIA represents its members on the full range of public policy issues affecting the telecommunications industry, forges consensus on industry standards, and organizes the largest annual communications technology trade show in the U.S.

TIA member companies offer for sale or are in the process of developing the range of landline and wireless technologies that will enable high-speed and broadband access to the

¹ See 47 C.F.R. § 1.415.

² See *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, GN Dkt. No. 00-185, Notice of Inquiry, FCC 00-355 (rel. Sept. 28, 2000) (“*NOI*”).

Internet for commercial and residential users. They sell to all classes high-speed and broadband Internet access service providers. Because TIA's views necessarily are both technology-neutral and service provider-neutral, it is able to advise the Commission from a unique perspective.

TIA believes that Commission policy should be driven by the fundamental principle that a competitive and open market is the preferred course to regulation. This is particularly true in situations such as with residential high-speed and broadband Internet access where the technologies and platforms used to provide the services are still in their nascent stages. Indeed, no single high-speed or broadband Internet technology or class of service provider has captured a dominant market position. Because none of the competing firms or technology platforms can exercise market power in such instances, regulation is unnecessary and inappropriate. Further, no class of service provider competing for high-speed or broadband Internet access subscribers should be on unequal footing when it comes to regulatory obligations. TIA emphasizes, however, that any Commission action that relates to such hypothetical or nascent markets should focus on deregulating platforms and services that are saddled with unnecessary and unequal regulatory burdens, rather than imposing regulation, whether in legacy form or newly crafted, on still-emerging technologies.

TIA thus recommends that the Commission in this proceeding determine that at this time it will continue to refrain from imposing any open access requirements on cable television system operators that engage in the provision of high-speed Internet access service (*i.e.* "cable modem service") to residential users. TIA believes that the Commission should arrive at such a conclusion in light of the potential negative impact on the economy, the nascent state of the residential high-speed Internet access market, and the fact that no one provider or class of providers holds a dominant position in this market. Finally, government-mandated open access

likely would have a negative effect on future investment in cable modem platforms and services.

II. THE COMMISSION'S DECISION ON WHETHER TO MANDATE ACCESS TO THE CABLE NETWORK WILL AFFECT THE EVOLUTION OF THE INTERNET AND HENCE THE ONGOING ECONOMIC EXPANSION

The Commission's decision on the issue of government-mandated open access requirements for cable has the potential to affect profoundly productivity growth and, hence, the ongoing economic expansion. A decision that slows the development of high-speed Internet access for residential users likely will slow the evolution of the Internet. This, in turn, will slow the growth in productivity and the economic expansion. In light of this reality, the issue of whether to impose open access requirements on cable is not just a matter of regulatory policy; it fundamentally is a matter of economic policy.

A. The Recent Economic Prosperity Is Attributable to a Burst in Productivity Growth

The historic economic prosperity experienced in the United States over the last five years is largely the result of a burst in productivity growth. Before explaining the connection between productivity growth and the continued development of the Internet, it is important to briefly explain the role of productivity in our economy. In simple terms, productivity growth represents the efficiency with which resources are used.³ Alongside human resources, natural resources, and capital formation, technology is considered one of the four factors of growth in an economy's output.⁴

³ PAUL A. SAMULESON & WILLIAM D. NORDHAUS, *ECONOMICS* 38 (Irwin McGraw-Hill 5th ed. 1998).

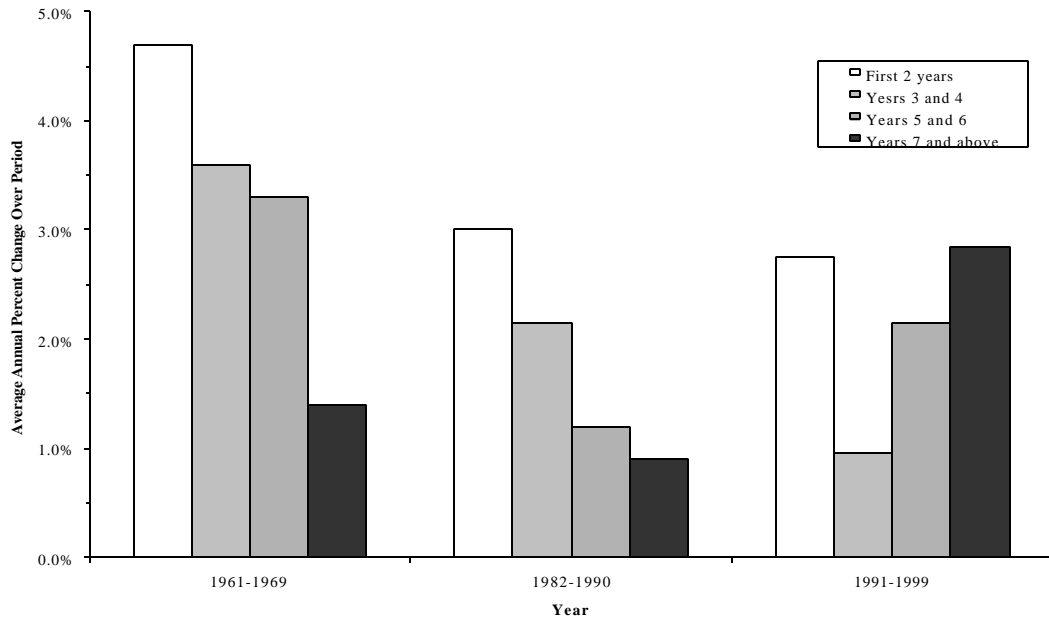
⁴ *Id.* at 519.

The unprecedented expansion of the U.S. economy during the 1990s can be linked precisely to an unprecedented increase in productivity. According to a February 2000 report by the Council of Economic Advisors to the President of the United States, information and other technologies were one of the main engines of the 1990s expansion.⁵ Unlike the expansions of the 1960s and the 1980s, which saw high productivity growth in the first two-year period of the expansion but then started to fall off, the Council reports that productivity growth during the expansion in the 1990s has actually been *accelerating*.⁶ Hence, the expansion of the 1990s is unique in the sense that the underlying gains in productivity were sustained over a long period of time. Figure 1 shows the growth in productivity during the past three economic expansions in the United States.

⁵ Council of Economic Advisors, ECONOMIC REPORT OF THE PRESIDENT, Feb. 2000 at 28 [hereinafter ECONOMIC REPORT].

⁶ *Id.* at 35.

Figure 1: Growth in Productivity During the Past Three Expansions



Note: The final column shows growth from 1997 through the third quarter of 1999.

Source: Department of Labor (Bureau of Labor Statistics)

As Figure 1 shows, productivity growth has fallen over time during previous expansions, but has risen during the expansion during the 1990s.

B. Narrowband Internet Applications Have Driven Productivity Gains

The Internet and its associated narrowband applications have been one of the greatest contributors to the economic expansion by the United States over the last five years. According to a May 2000 study by the Federal Reserve,⁷ the use of information technology—that is, computer hardware, software, and communications equipment—accounted for two-thirds of the one percentage point increase in productivity growth between the first and second halves of the last decade.

The Council of Economic Advisors also credited the Internet and its associated applications for the recent gains in productivity. It found that “the diffusion and development of the Internet promise continued productivity payoffs still to come.”⁸ In particular, the Council found that two developments accounted for half of the increase in productivity since 1995: an increase in capital — especially computer and software capital — and productivity growth in the computer-producing sector.⁹ The Council attributes the other half of the increase in productivity to other factors, including “cyclical influences and new efficiencies from the use of the Internet.”¹⁰ Clearly, by sustaining the gains in productivity, the Internet will play a significant role in the future health of our nation’s economy.

C. The Slow Deployment of High-Speed and Broadband Infrastructures Threatens to Undermine the Continued Stimulus from Productivity Gains

The next phases of the development of the Internet will involve the distribution of increasingly higher bandwidth-intensive applications. These “information-rich” applications cannot be distributed over the narrowband infrastructure as it exists today. Because the gains in economic growth are linked indirectly to the new efficiencies arising from expanded use of the Internet’s capability, increasingly faster access to the Internet is essential to continue this economic expansion. Hence, sustaining the Internet-based economic growth will require upgrading the technology and expanding capacity in all parts of the national telecommunications infrastructure.

The bandwidth requirements for the next wave of Internet technology far exceed the bandwidth capability of today’s communications devices. For example, standard television

⁷ Stephen D. Oliver and Daniel E. Sichel, THE RESURGENCE OF GROWTH IN THE 1990’S: IS INFORMATION TECHNOLOGY THE STORY? at 28 (Federal Reserve Board May 2000).

⁸ ECONOMIC REPORT, *supra* note 5, at 29.

⁹ *Id.* at 81.

quality video, even with MPEG-2 compression, cannot effectively be transmitted over the narrowband connections that bring the Internet to virtually every American. A 60-second file of compressed standard television video would take at least two hours and 19 minutes to transmit on a 28.8 kbps online connection, which is the narrowband Internet connection still used by a majority of American households. High-speed Internet access services being offered today improve bandwidth capabilities substantially and broadband technologies will make full-motion video transfers a reality. Hence, if telecommunications carriers, cable operators, satellite and wireless providers do not eagerly embrace high-speed and broadband capabilities, transmission of information-rich applications will be frustrated, and the continued increases in productivity driven by the Internet may be jeopardized. This, in turn, could undermine the current economic expansion.

D. The Failure of Several Business-to-Consumer Firms Can Be Traced to the Slow Diffusion of Residential High-Speed Technologies

The Internet is already revolutionizing distribution technology at the retail level. Estimates of the value of business-to-consumer (“B2C”) retailing in 1998 vary from \$7 billion to \$15 billion, or between 0.2 and 0.5 percent of retail sales.¹¹ Forrester Research, a telecommunications consultancy, expects B2C revenues to reach \$20 billion in 2000.¹² As the network of its users grows, the potential to use the Internet as a low-cost means to communicate information to customers and processing orders for products is growing ever larger.

Unfortunately, this potential is not yet being realized. The technology section of the *Wall Street Journal* reads like an obituary. Each day, it seems a B2C company files for bankruptcy or

¹⁰ *Id.* at 83.

¹¹ *Id.* at 116.

¹² *Survey: E-commerce—Shopping around the web*, ECONOMIST, Feb. 24, 2000, at *1.

announces massive layoffs. Notable B2C failures include Pets.com,¹³ MotherNature.com,¹⁴ Furniture.com,¹⁵ Discovery.com,¹⁶ Living.com,¹⁷ Miadora.com,¹⁸ and Eve.com.¹⁹ According to Webmergers.com, an Internet research firm, at least 85 dot-com companies shut down their operations between January and October 2000.²⁰

A possible contributing cause for the large failure rate in B2C enterprises is the fact that the majority of American households still access the Internet with a 28.8 kbps connection. According to *The Economist*, the biggest stimulus to e-commerce “will come not from snazzier websites or snappier marketing, but from the proliferation of high-speed Internet connections to the home.”²¹ This might help explain, at least in part, the discrepancy between the magnitude in

¹³ Joelle Tessler, *San Francisco-Based Online Pet Store Will Close*, SAN JOSE MERCURY NEWS, Nov. 8, 2000; Guy Dixon, *List of Defunct Web Sites Growing*, THE GLOBE AND MAIL, Nov. 13, 2000, at B14. (Pets.com announced its closing November 7, 2000. The company severed 255 of its 320 employees and sold most of its assets. Pets.com spent \$14.7 million on marketing in its final quarter, while quarterly revenue was only \$9.4 million.)

¹⁴ Greg Gatlin, *MotherNature Joins Dotcom Dead*, THE BOSTON HERALD, Nov. 8, 2000, at O47. (The board of MotherNature.com voted unanimously on November 7, 2000 to liquidate the company. The company spent millions marketing itself while racking up losses. Following an IPO in December 1999, the stock price fell rapidly. The company burned through \$4.6 million in cash in the most recent quarter.)

¹⁵ *Furniture.com Terminates Business as Funds Dry Up*, WALL ST. J., Nov. 7, 2000, at B8. (On November 7, 2000, Furniture.com shut down its operations and severed 76 of its 88 employees. Furniture.com had a net loss of \$46.5 million in 1999 on revenue of \$10.9 million.)

¹⁶ Carrie Johnson, *Discovery.com lays off official*, WASHINGTON POST, Nov. 13, 2000, at *1. (More than 40 percent of Discovery.com’s 200 full-time workers received pink slips on November 13, and nearly all of the 150 contingent employees will be released during November and December)

¹⁷ Vikas Bajaj, *Death of Living.com Typifies Tough Market for Today’s E-Traders*, THE STAR-LEDGER NEWARK, Aug. 28, 2000, at O52. (On August 22, 2000, Living.com ceased operations and announced plans to file Chapter 7 bankruptcy. \$68 million in venture capital funding raised since 1998 was inadequate for living.com to become profitable. It laid off over 325 workers in its closing.)

¹⁸ Carolyn Said, *Jewelry Market Just Too Crowded for Miadora.com*, THE SAN FRANCISCO CHRONICLE, Sep. 26, 2000, at C1. (Miadora.com, an online retailer of upscale jewelry, ceased operations and laid off its entire workforce of approximately 75 employees on September 22.)

¹⁹ Rebecca Quick, *Beauty Retailer Eve.com Is Liquidating in Wake of Withdrawn IPO Registration*, WALL ST. J., Oct. 23, 2000, at B12. (On October 20, 2000, Eve.com announced that it would liquidate its assets and lay off most of its 164 employees. The company had incurred a loss on every order it delivered to customers.)

²⁰ Joelle Tessler, *San Francisco-Based Online Pet Store Will Close*, SAN JOSE MERCURY NEWS, Nov. 8, 2000.

²¹ *Define and sell: Where e-commerce wins hands down, and where it doesn’t*, ECONOMIST, Feb. 24, 2000, at *1.

business-to-business (“B2B”) commerce, where the Internet connections on both ends are likely to be high-speed, and the magnitude of B2C revenues.²²

The impact on B2C firms of slower data transfer rates can be crippling as Internet-based transactions require sufficient bandwidth to process orders and perform encryption algorithms. Forrester Research reports that 42 percent of the consumers who leave a web site unsatisfied will never return.²³ Based on those user characteristics, Zona Research estimates that slow Internet response could result in losses as high as \$102 million of uncompleted orders *per month* for the B2C segment of e-commerce.²⁴ Table 1 shows the estimated losses for B2C firms from slow load speeds.

Table 1: Estimated Business-to-Consumer Share of Load Speed Loss

Business-to-Consumer Market Segment	Percentage of 1997 B2C Market	Theoretical Share of Load Speed Losses
Securities Trading	32.5%	\$33,314,806
Travel/Tourism	27.4%	\$28,086,944
Book Publishing	11.4%	\$11,685,809
Groceries	7.3%	\$7,483,018
Personal Finances	3.7%	\$3,792,763
Recorded Music	3.5%	\$3,587,748
Box Office Receipts	2.8%	\$2,870,199
Textiles/Apparel	2.6%	\$2,665,184
Other	8.8%	\$9,020,624
Total	100.0%	\$102,507,095

Source: Avoid the High Cost of a Slow Web Site, ECHOMOUNTAIN.COM (downloaded from company website on Nov. 13, 2000 at <http://www.echomountain.com/avoid.html>.)

As Table 1 shows, online securities trading, travel/tourism, and book publishing firms bear the bulk of the losses due to uncompleted orders. According to Zona Research, slow Internet connections at the consumer end are the primary source of the loss:

²² Forrester Research estimates that 80 percent of all e-commerce activity in 1999 could be credited to B2B revenues. *Id.*

²³ *Avoid the high cost of a slow web site, ECHOMOUNTAIN.COM (downloaded from company website on Nov. 13, 2000 at www.echomountain.com/avoid.html).*

²⁴ *Id.*

[T]he majority of economic losses from unacceptable download speeds come from the consumer sector, because private residences and the SOHO market usually have slower connections than businesses.²⁵

Other explanations for why B2C is encountering difficulties include the reluctance of consumers to offer credit card information online, consumers' insistence to sample or feel the item under consideration, high shipping costs for bulk items, service frustrations, and the unwillingness of the capital markets to continue to fund such ventures.²⁶ Although each explanation has merit, none can be addressed as directly at the policy level as can slow data transfer speeds. For example, no government action can alter a consumer's insistence to inspect merchandise in person.

The B2C failings may be indicative of how the predominance of low-speed connections can have an impact on the U.S. economy. To stimulate e-commerce activity, the Council of Economic Advisors offers a hands-off prescription for regulatory policy:

For completely new areas of economic activity such as e-commerce, the Administration believes that growth can best be encouraged by limiting the regulatory burden. Regulatory forbearance and policies that let nascent markets grow have encouraged continuing investment in information infrastructure and made possible unprecedented growth in the development, adoption, and use of e-commerce.²⁷

If regulatory forbearance is the correct approach to stimulating e-commerce, then consistency requires a similar approach in the area of high-speed and broadband deployment, across all technologies.

²⁵ *Id.*

²⁶ *Online Shopping Promises Consumers More Than It Delivers*, CANADA NEWSWIRE, Mar. 7, 2000, at *1.

²⁷ ECONOMIC REPORT, *supra* note 5, at 127.

E. The Commission Should Encourage the Rapid Deployment of High-Speed and Broadband Infrastructures

The Commission should foster regulatory policies that will speed the pace of deployment of high-speed and broadband Internet access networks, regardless of the technologies involved. As we have demonstrated above, there is a critical link between the development and expanded use of the Internet and productivity gains in the economy in general. If the pace of high-speed and broadband deployment increases, then the associated gains in productivity will continue to stimulate the economy. If the pace of high-speed and broadband deployment stagnates — for any reason — then the productivity will constrain growth in the general economy. Given the likely negative effect of government-mandated cable open access requirements on high-speed and broadband deployment, explained later, their adoption could have a significant adverse impact on large portions of the U.S. economy.

III. RESIDENTIAL HIGH-SPEED AND BROADBAND INTERNET ACCESS PLATFORMS AND SERVICES ARE STILL IN A NASCENT STATE

Before deciding whether to further regulate the high-speed Internet access market, for example through the imposition of government-imposed open access obligations on cable operators, the Commission must understand the state of this market. By any reasonable measurement, the technology platforms and services used to provide residential high-speed and broadband Internet access are in their infancy.

The cable modem and DSL technologies most commonly deployed today fall into the category of high-speed access technologies. As indicated in Table 2, high-speed residential Internet access is expected to reach approximately 5.5% penetration at the end of the year 2000.

Table 2: High-Speed Residential Internet Access

(in Thousands)

	4Q98	4Q99	4Q00E
Total U.S. Homes:	102,111	103,234	104,370
Cable Modems	401	1,385	3,384
xDSL	50	445	1,880
Other (wireless, fiber, satellite)	0	100	500
Total U.S. Homes with High Speed	451	1,930	5,764
Portion of U.S. Homes with High-Speed	0.4%	1.9%	5.5%

Source: Media-Cable Television Sector Residential High-speed Update, INVESTEXT: MORGAN STANLEY, DEAN WITTER, Jul. 7, 2000, at 5.

Residential “broadband” Internet access, using the most pure meaning of the term as explained below, is even more immature, as it involves Internet access over technologies that allow for the transmission of information in all its forms: voice, data, graphics, and high-quality full motion video, including full motion video on an interactive basis. Table 3 below reflects the transmission speeds required for real-time audio, video, and data applications. A high-speed network is capable of providing data, audio, and some video applications. A broadband network is necessary to transmit data applications at Ethernet speeds and full-motion video applications.

**Table 3: Network Transmission Speed Requirements for
Real Time Audio, Video, and Data Applications**

Applications	Downstream Speed	Upstream Speed
Audio		
• CD Quality Sound	256 kbps	---
• Broadcast Quality	48 kbps to 64 kbps	---
• Plain Old Telephone Service	64 kbps	64 kbps
Video		
• Broadcast HDTV (compressed)	20 mbps/channel	---
• Broadcast Standard TV (MPEG-2 compressed)	4-6 mbps/channel	
• Videoconferencing	64 kbps – 2 mbps	64 kbps – 2 mbps
• Interactive Standard TV (MPEG 2 Compressed)	4-6 mbps/channel	4/6 mpbs/channel
Data		
• File Transfer (Ethernet 10BaseT)	10 mbps	10 mbps
• File Transfer (Ethernet 100BaseVG)	100 mbps	100 mbps
• Web Browsing	240 kbps	240 kbps
• Network Games	80 kbps	80 kbps

Source: Timothy C. Kwok, Microsoft Corporation, “Residential High-speed Internet Services and Applications Requirements,” *IEEE Communication Magazine* June 1997, Tables 3 and 4, p. 80-81.

If broadband access thus is a capability that will enable users to originate and receive information in all its forms, then a minimum of 10 mbps bi-directionally defines it. TIA is aware of only a limited number of trials that provide this level of broadband Internet access to residential users. At this stage, the market for this level of access is so immature that it is virtually nonexistent.

IV. CABLE MODEM PROVIDERS ARE NOT DEMONSTRATING THE REQUISITE MARKET POWER TO JUSTIFY REGULATORY INTERVENTION

For a compelling *economic* justification to exist for the imposition of open access requirements on cable operators, the cable industry would have to be found to be exercising market power in its provision of cable modem services. Even with such a finding, the Commission also would have to find, either explicitly or implicitly, that enforcement of existing antitrust laws would be ineffective in disciplining any such exercise of market power. TIA believes that no evidence exists showing that the cable industry is exercising market power in the provision of residential high-speed Internet access. Regulatory intervention therefore clearly is unnecessary.

A. The Commission has a History of Using Market Power in Deciding How to Regulate Carriers

The Commission has a history of using measures of market power in deciding how to regulate carriers that fall under its jurisdiction. In 1980, the Commission defined a dominant carrier in the context of the long-distance industry to be a carrier that “possesses market power.”²⁸ In determining whether a firm possessed market power, the Commission focused on certain “clearly identifiable market features,” including “the number and size distribution of competing firms, the nature of barriers to entry, and the availability of reasonably substitutable services,” and whether the firm controlled “bottleneck facilities.”²⁹ Applying that criteria, the Commission ruled that AT&T was dominant for three reasons: (1) AT&T controlled local

²⁸ *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, First Report and Order, 85 FCC.2d 1 (1980) at ¶ 56.

²⁹ *Id.* at ¶ 57-58.

access facilities for over 80 percent of the nation's phones;³⁰ (2) AT&T had an "overwhelming" market share of the message toll service ("MTS") and wide area telecommunications service ("WATS") market and that "the growing demand for long-distance telephone service and the current difficulties of entering this market . . . confer substantial market power upon AT&T";³¹ and (3) AT&T's revenues for private line services were more than thirteen times the combined private line revenues of specialized common carriers.³² Two years later, the Commission elaborated on its definition of market power to include "the ability to raise prices by restricting output."³³

In its decision to reclassify AT&T as a non-dominant carrier, released 15 years after the determination of dominance, the Commission concluded that "while the long-distance marketplace is not perfectly competitive, AT&T neither possesses nor can unilaterally exercise market power within the interstate, domestic, interexchange market taken as a whole."³⁴ The Commission's reclassification and de-regulation of AT&T was premised on four facts: (1) AT&T's competitors had enough readily available excess capacity to constrain AT&T's pricing behavior;³⁵ (2) resellers had avoided the large sunk costs of entry into the long-distance industry by leasing the excess capacity of existing facilities-based carriers,³⁶ (3) residential customers of long-distance services are highly demand-elastic and will switch to or from carriers to obtain price reductions and desired features,³⁷ and (4) AT&T's long-distance market share, in terms of both minutes and revenues, fell from approximately 90 percent to 55.2 and 58.6 percent

³⁰ *Id.* at ¶ 62.

³¹ *Id.* at ¶ 63.

³² *Id.* at ¶ 64.

³³ *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, Fourth Report and Order, 95 FCC.2d 554 (1983), at ¶ 7.

³⁴ *Motion of AT&T to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd. 3271 (1995) at ¶ 12.

³⁵ *Id.* at ¶ 58.

³⁶ *Id.* at ¶ 61.

³⁷ *Id.* at ¶ 63.

respectively.³⁸ The Commission was explicit about the role of market share in determining market power:

The behavior of the market between 1984 and 1994 suggests intense rivalry among AT&T, MCI and Sprint. Moreover, we note that AT&T's market share fell approximately 33 percent between 1984 and 1994. The fact that the rate of decline of AT&T's market share has decreased during the last five years is not an indication of market power. Rather, it may simply reflect the fact that, since 1990, most customers, including resellers, have had dozens of choices of equal access carriers, and that AT&T's competitors no longer have the advantage of lower access costs that enabled them to underprice AT&T and capture market share. Accordingly, we find the decline in AT&T's market share suggests that AT&T no longer possesses market power.³⁹

Hence, the Commission de-regulated AT&T by declaring it to be non-dominant, freeing AT&T from price-cap regulation, allowing it to file tariffs on one day's notice, authorizing it to extend service to any domestic point, and authorizing it to construct, acquire, or operate any transmission lines.⁴⁰

In light of this history, the Commission's decision on whether to adopt an open access regulatory mandate should include looking at the market power of the cable TV industry in the provision of high-speed Internet access to residential subscribers. In particular, the Commission should look to measures of market share when assessing market power.

B. Market Share Analysis Shows that the Cable Industry Does Not Have Market Power in the Provision of Residential High-Speed Internet Access Services

In the sections below, TIA demonstrates that cable modem providers do not have high market shares, and hence market power, in either of two hypothetical relevant markets: (1)

³⁸ *Id.* at ¶ 67.

³⁹ *Id.* at ¶ 72.

⁴⁰ *Id.* at ¶ 35.

residential Internet access, which consists of both narrowband and high-speed Internet connections, or (2) residential high-speed Internet access.⁴¹

1. Cable Market Share Is a Trivial Percentage of the Residential Internet Access Market

We present two independent estimates of cable’s market share in the residential Internet access market. Table 4 shows the share of cable modem subscribers relative to all residential Internet subscribers (both narrowband and high-speed) according to reports by Morgan Stanley, Dean Witter.

Table 4: Cable Share as a Percentage of Residential Internet Access Market
(Morgan Stanley, Dean Witter)

(in thousands)			
Access Method	4Q98	4Q99	4Q00-E
Cable Subscribers	401	1,385	3,384
DSL Subscribers	50	445	1,880
Fiber, Satellite, Fixed Wireless	-	100	500
Dial-up	24,977	33,807	39,685
Total	25,428	35,737	45,449
Cable Share	1.6%	3.9%	7.4%

Source: Media-Cable Television Sector Residential High-speed Update, INVESTEXT: MORGAN STANLEY, DEAN WITTER, Jul. 7, 2000, at 5.

As Table 4 indicates, cable’s share of the overall residential Internet access market⁴² is estimated to be a mere 7.4 percent by the end of 2000.⁴³ Table 5 presents similar statistics of government agencies.

⁴¹ Indeed, although the cable industry currently has the greatest number of high-speed Internet access subscribers, none of the various platforms can be considered to have a high market share at this early stage of deployment.

⁴² This market includes narrowband dial-up services with speeds up to 53 kbps.

⁴³ DSL’s market share is only 4.1% and fiber, satellite and fixed wireless a combined 1.1%.

Table 5: Cable Share as a Percentage of Residential Internet Access Market
(Government Statistics)

(in thousands)

Access Method	4Q98	4Q99	2Q00	4Q00
Cable Subscribers	350	1,404	2,200	NA
DSL Subscribers	53	338	875	NA
Fiber, Satellite, Fixed Wireless	-	51	64	NA
Dial-up	24,977	35,000	38,617	NA
Total	25,380	35,601	41,758	NA
Cable Share	1.4%	3.9%	5.3%	NA

Source: High-Speed Services for Internet Access: Subscribership as of June 30, 2000, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, at 5 (October 2000); Broadband Today, Cable Services Bureau, Federal Communications Commission (October 1999); Deployment of Advanced Telecommunications Capability: Second Report, Cable Services Bureau, Federal Communications Commission (August 2000); National Telecommunications and Information Administration, Falling Through the Net—Toward Digital Inclusion: A Report on Americans' Access to Technology Tools (released October 2000).

According to government figures, cable's share of the overall residential Internet access market was estimated to be a mere 5.3 percent in 2000.⁴⁴

2. Cable Modem Service Subscribers Constitute a Declining Percentage of Residential High-Speed Internet Access Subscribers

TIA believes that a hypothetical market for residential, high-speed Internet access services cannot reasonably be characterized as mature at this point with less than 6 million subscribers nationwide. But should the Commission determine that a distinct, high-speed Internet access market exists, no technology platform or service has a share in it sufficient to conclude that providers offering that platform have market power. Table 6 depicts the share of cable modem subscribers relative to all residential high-speed Internet subscribers.

Table 6: Cable Share as a Percentage of High-Speed Internet Access Subscribers
(Morgan Stanley, Dean Witter)

Access Method	4Q98	4Q99	2Q00	4Q00-E
Cable Subscribers	401	1,385	NA	3,384
DSL Subscribers	50	445	NA	1,880
Fiber, Satellite, Fixed Wireless	-	100	NA	500
Total	451	1,930	NA	5,764
Cable Share	88.9%	71.8%	NA	58.7%

Source: Media-Cable Television Sector Residential High-speed Update, INVESTEXT: MORGAN STANLEY, DEAN WITTER, Jul. 7, 2000, at 5.

As Table 6 shows, cable’s share of residential high-speed Internet access subscribers has fallen, albeit at a decreasing rate, from 88.9 percent to 58.7 percent over the past three years.

Table 7 shows a similar trend based on government-reported data. According to the Commission, cable’s share of the hypothetical high-speed residential Internet access market was below 70 percent by the second quarter of 2000 and still falling.⁴⁵ In just one year, cable’s share fell from above 80 percent to below 70 percent — the same decline took over three years in the long distance industry.⁴⁶ If the standard for dominant market power that the Commission used for the long distance industry is applied in this context, cable modem providers could not reasonably be considered to have market power.

⁴⁴ Government statistics also show DSL market at 2.1% and fiber, satellite and wireless combined at .2% for the same time period.

⁴⁵ This declining market share likely is due primarily to the increased presence of other technologies in the consumer market (such as DSL, satellite and fixed wireless), but other factors may help explain it as well, such as set-top box standardization issues and equipment shortages.

⁴⁶ Long Distance Market Share Report, 4th Quarter 1998 (released March 1999) at Table 1.1 (downloaded at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/ixc.html on Nov. 16, 2000). AT&T share of interstate switched access minutes was 84.2 percent in the third quarter 1984 and 69.9 percent in the first quarter 1988.

**Table 7: Cable Share as a Percentage of
High-Speed Internet Access Market
(FCC Statistics)**

(in thousands)

Access Method	4Q98	4Q99	2Q00	4Q00-E
Cable Subscribers	350	1,405	2,180	NA
DSL Subscribers	53	338	875	NA
Fiber, Satellite, Fixed Wireless	-	51	64	NA
Total	403	1,794.04	3140.603	NA
Cable Share	86.8%	78.3%	69.9%	NA

Source: High-Speed Services for Internet Access: Subscribership as of June 30, 2000, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, at 5 (October 2000); High-speed Today, Cable Services Bureau, Federal Communications Commission (October 1999); Deployment of Advanced Telecommunications Capability: Second Report, Cable Services Bureau, Federal Communications Commission (August 2000).

Clearly, it is premature for predictions as to which high-speed platforms and services will achieve greater success in the marketplace. TIA certainly cannot, and indeed would not, make such a prediction, and nor should regulators. In fact, signs exist that healthy competition is developing. To some extent, the deployment patterns of DSL providers have mirrored that of the cable operators, and *vice-versa*. These represent healthy, competitive responses. Additionally, satellite and fixed wireless operators have stepped-up their high-speed service offerings with every intention of accumulating market share. As a result, the Commission should let all of these various high-speed Internet access services compete in the marketplace without taking any action that could have the effect of artificially impacting the success or failure of any particular technology. In other words, the Commission should take care to not pick technology winners and losers.

C. Market Forces Very Well May Lead to Open Cable Platforms

The Commission asks in the *NOI* whether it should continue a market-based approach to the issue of access by ISPs to the cable modem platform.⁴⁷ TIA answers that question with a firm “yes.” Cable operators to some extent appear to be recognizing that affording unaffiliated ISPs access to their cable platforms may indeed make commercial sense. Major cable operators are continuing to negotiate with ISPs for access to their high-speed cable platforms,⁴⁸ and trials of various technological solutions for accommodating multiple ISPs are being conducted.⁴⁹

TIA believes strongly that the free market is more efficient at determining the scope and details of commercial arrangements for access to a cable operator’s network than a regulatory approach would be. It could take years for the Commission to sort out all of the various technical and cost issues associated with open access agreements. Therefore, assuming that the Commission finds that open access to high-speed cable networks is in the public interest, it should defer to the marketplace to achieve it in a way that fully reflects commercial and technical considerations.

⁴⁷ *NOI*, ¶¶ 34-40.

⁴⁸ *Time Warner Inks Deal with EarthLink*, USA TODAY ONLINE, Nov. 21, 2000 (downloaded at <http://www.usatoday.com/life/cyber/invest/ina354.htm> on Nov. 30, 2000); *Comcast Cable to Offer Juno's Access Service*, REUTERS, Nov. 29, 2000 (downloaded at <http://news.excite.com:80/news/r/001129/18/media-comcast-juno> on Nov. 30, 2000).

⁴⁹ *Time Warner Starts Multi-ISP Trial*, CABLE DATACOM NEWS, Aug. 1, 2000 (downloaded at <http://www.cabledatacomnews.com/aug00/aug00-4.html> on Nov. 29, 2000); Patricia Fusco, *AT&T to Test Shared Cable Access*, INTERNET NEWS.COM, June 7, 2000 (downloaded at http://www.internetnews.com/isp-news/article/0,,8_389461,00.html on Nov. 29, 2000); see also *AT&T Broadband To Launch Trial Of Multiple Internet Providers*, AT&T Press Release, June 7, 2000 (downloaded at <http://www.att.com/press/item/0,1354,2951,00.html> on Nov. 29, 2000).

**V. IMPOSITION OF OPEN ACCESS REGULATION ON CABLE OPERATORS
LIKELY WOULD SLOW DEVELOPMENT OF RESIDENTIAL HIGH-SPEED
INTERNET ACCESS**

Cable operators have been investing heavily to upgrade the cable plant in order to provide residential high-speed Internet access and other services. These efforts have been undertaken outside the shadow of government-imposed open access regulation. There is no assured return on this investment. Yet, the potential for a profitable return is enough for them to justify the risk of financial losses. However, a regulatory requirement mandating that cable operators open their high-speed platforms to unaffiliated ISPs clearly changes the equation. The risk-reward scenario is altered so as to discourage the investment. In fact, for this reason, ideally entities competing for high-speed and broadband subscribers should assume the same investment risk. Further, government regulators should not be in a position to artificially impact which technology platforms and services are more successful in the marketplace.

As noted earlier, through the functioning of the free market, a cable operator may determine that allowing multiple ISPs onto its system makes business sense and that it may be able to recapture its investment to its satisfaction. But, such a development is very distinct from a situation where the Commission imposes open access as a regulatory requirement. Commercial agreements involve careful negotiations and consideration of market realities that regulation cannot possibly reflect. In the end, the imposition of a regulatory open access requirement will inject inefficiencies into the high-speed Internet access market and will help to distort its natural evolution.

Certainly, the notion that the imposition of regulation on an industry likely slows its pace of innovation and deployment of new technologies is not novel. In fact, in the

telecommunications sector itself, evidence of such a negative relationship has been demonstrated repeatedly.

The ILECs have made this argument when it comes to the telephone network, and the upgrades necessary to provide advanced services. In the proceeding involving the unbundling of network elements for competing service providers, Ameritech noted that “[t]he engine of the competitive process is the ability of firms, developing efficiencies and innovative new products and services, to differentiate themselves from their competitors. Unbundling requirements deny incumbents that ability.”⁵⁰ US West (now Qwest) stated that “[f]orced sharing of proprietary elements would be particularly destructive in areas of new and advanced services since that is where innovation and investment are most prevalent and vital today.”⁵¹ Bell Atlantic (now Verizon) observed that “incumbent carriers will have little incentive to invest in advanced services equipment if it is burdened with an unbundling obligation.”⁵²

The Commission itself has observed that overbroad unbundling requirements could discourage investment. In its *Local Competition Order*, the Commission “acknowledge[d] that prohibiting incumbents from refusing access to proprietary elements could reduce their incentives to offer innovative services.”⁵³ U.S. Supreme Court Justice Breyer in fact has noted that “a sharing requirement may diminish the original owner’s incentive to keep up or to improve the property by depriving the owner of the fruits of value-creating investment, research, or labor.”⁵⁴

⁵⁰ Comments of Ameritech in CC Docket No. 96-98, at 25-26 (filed May 26, 1999).

⁵¹ Comments of US West in CC Docket No. 96-98, at 24 (filed May 26, 1999).

⁵² Comments of Bell Atlantic in CC Docket No. 96-98, at 43 (filed May 26, 1999).

⁵³ 11 FCC Rcd. 15499, 15642, para. 282 (1996).

⁵⁴ *AT&T Corp. v. Iowa Util. Bd.*, 119 S.Ct. 721, 753 (1999) (Breyer, J. concurring in part and dissenting in part) (*citing* I.H. Demstet, *Ownership, Control, and the Firm: The Organization of Economic Activity*, 207 (1988)).

The Commission of course is well aware that regulation can hinder innovation and investment in new technology, as it often has cited to the flip side of this notion: the removal of regulation, or refraining from regulating, can foster such activity. In its February 1999 *Section 706 Report*, in recognizing that pro-competitive policies should foster a marketplace conducive to investment and innovation, the Commission stated that it would “not hesitate to reduce the barriers to infrastructure investment . . . so that companies in all segments of the communications industry will have market-based incentives to innovate and invest in new technologies and facilities.”⁵⁵

Considering the historical regulation of the telephone network in the U.S., it is not surprising that the pace of technological investment and innovation in that network sometimes has been disappointing. It would be a tragedy if, even with the benefit of such hindsight, the Commission moves forward to impose cable open access requirements that likely will have the effect of reducing or slowing the pace of innovation and investment in the new and still developing networks of the future.

VI. CONCLUSION

TIA urges the Commission to maintain its well-reasoned policy of refraining from imposing regulation upon new high-speed and broadband platforms and services. In fact, a Commission determination after this *NOI* even to begin moving along a regulatory path with regards to the provision of high-speed Internet access over the cable platform likely would have a significant chilling effect on innovation and investment. This would adversely affect the deployment of cable modem and potentially other advanced services at this early, yet critical,

⁵⁵ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the*

stage in their development. As the discussion above indicates, no valid justification exists for the imposition of new government-mandated cable open access requirements, which could have a substantial and negative impact on the growth and productivity of the new digital economy.

Respectfully submitted,

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