APPENDIX A

ECONOMIC ANALYSIS OF LOCAL ADVERTISING

In this section, we analyze patterns in local advertising and demonstrate that such revenues accrue primarily to the largest MSOs. To the extent that these incremental benefits are shared by both operators and the network providers, they should affect patterns of license fees. In Table A-1, aggregate data for the cable industry are presented. Note the increasing importance of local advertising which is expected to represent over 8% of total advertising revenue by the year 2000.

Table A-1
Projected Revenue Growth for Cable Operators, 1993-2000

Revenue Source:	1993	1994	1995	1996	2000	1993-2000 Annual Growth
Basic sub rev	15,170	14,995	16,013	17,024	21,274	4.9%
Premium sub rev	4,493	4,786	5,121	5,421	6.639	5.7%
Pay per view rev	556	668	804	969	1,422	14.4%
Local advertising (net)	984	1,256	1,456	1,660	2,589	14.8%
Total:	21,203	21,705	23,394	25,074	31,924	6.0%

Source: 1996 Paul Kagan Associates, Inc. Excludes home shopping, digital, telephone, and mini-pay revenues.

In Tables A-2 through A-4, we present several models of advertising, using survey data gathered by the Federal Communications Commission during their 1992 cable rate proceedings. Table A-2 provides estimates of the relationship between advertising sales volume for a cable operator and a set of explanatory variables. The estimates imply that the expected volume of advertising grows exponentially with the size of a system. For example, TCI affiliates typically have almost 200% more advertising revenues than smaller MSOs. Also, revenues rapidly increase with the size of a system. The coefficient indicates that a 100% increase in the number of homes passed results in over a 200% increase in advertising dollars.

For the smallest systems, local advertising is almost nonexistent. In Table A-3, we see that almost half the systems in the FCC sample reported no advertising dollars at all. In Table A-4, the results from a series of logistic regressions are also presented. These regressions express the probability of falling into various categories of advertising (from 1 to over 5%) as a function of independent factors, including system size and

MSO affiliation. Simulations based on these estimates, reported in Table A-5, indicate that virtually all TCI affiliates and systems having more than 100,000 homes passed earn local advertising dollars. In contrast, small systems are unlikely to earn any at all.

Table A-2
Models of Advertising Sales Volume

Dependent Variables:	log(ad revenues) Includes zeros	log(ad revenues) excludes zeros
Explanatory variables:		
Intercept	-15.867***	-4.313***
log(households passed)	2.166***	1.313***
large mso. 100+systems(0.1)	0.324	0.143
TCI affiliate (0.1)	1.633**	0.672*
headend age<3 years(0.1)	0.261	0.856
headend age>19 years (0.1)	0.072	0.469
log(number of broadcast channels)	-1.695***	-0.623***
log(number of active channels)	1.760*	0.924
R-squared	.650	.713

Source: Data provided through 1992 FCC Survey of Cable Operators

* Significant at 10%
** Significant at 5%
***Significant at 1%

Table A-3
Distribution of Advertising Revenues

Ad Revenues as % of Total	Percent of Sample, by Category
0% advertising	45.6%
less than 1%	19.0%
between 1 and 5%	29.1%
greater than 5%	6.3%

Source: Data provided through 1992 FCC Survey of Cable Operators.

Table A-4
The Importance of Advertising to Cable System Operators,
Logistic Models Predicting Percent Categories

Explanatory Variables:	Over 1% of revenues From local ads (0,1)	% of revenues from ads >0%, >1%,>5%	
Intercept(s)	-16.298***	>0<1%,	-17.922***
		>0<5%,	-14.711***
		> 0%,	-13.130***
log(households passed)	1.145***		0.950***
large MSO, 100+ systems (0,1)	0.555		0.216
TCI affiliate (0,1)	1.853***		1.541**
headend age<3 years (0,1)	1.883**		0.211
headend age>19 years (0,1)	-0.060		0.235
log(number of broadcast channels)	-1.407***		-1.160***
log(number of active channels)	2.145**		2.123***

Source: Data provided through 1992 FCC Survey of Cable Operators.

* Significant at 10%
** Sigificant at 5%
*** Significant at 1%

Table A-5
Illustrative Model Simulations,
Importance of Advertising by System Characteristics

Scenario:	Probability of advertising revenues greater than 1%
Base case[a]	44%
System passes 100,000 homes	87%
System passes, 1,000 homes	3%
TCI affiliation	83%
System has 50 active channels	70%
System carries 8 broadcast stations	28%

In Table A-6, we use data on average license fees and other network characteristics to evaluate the role of local advertising revenues. The regressions link monthly license fees per subscriber with a set of

[a] Base case is the prediction for an independent system that passes 15,000 homes and carries 30 active channels of which 4 are over the air broadcast stations.

independent variables, including the number of subscribers (in logarithmic form), the log of program costs, local ad dollars per sub, and variables indicating the importance of different program types for the networks' lineup. The model estimates suggest that a 10 cent increase in the per subscriber amount of local ad revenue can be linked with a 5.2 cent increase in the license fees earned by the network.

Thus, to the extent the large systems and MSO's earned virtually all of the local advertising revenues, one would expect them to pay higher license fees, all things being equal.

Table A-6
Explaining Monthly License Fees Per Subscriber

Variable	Coefficient	Standard Error
Intercept	0.0704**	0.0288
Year = 1991	0.0020	0.0102
Year = 1992	0.0028	0.0102
Year =1993	0.0009	0.0103
Year = 1994	0.0020	0.0119
Year = 1995	0.0076	0.0119
Log of subscribers (mil)	-0.0358***	0.0100
Log of program costs (mil)	0.0353***	0.0052
Negative cash flow = 1	-0.0.229**	0.0099
Local ad dollars per sub	0.5218***	0.0554
Sports ads as % of all revenues	0.2181***	0.0152
Movies as % of prime time	-0.0006	0.0181
Syndicated programs as % of prime time	0.0258*	0.0140
Observations: 132		
Adjusted R-squared: 933		

Source: Paul Kagan, Associate, *Economics of Basic Cable Networks*, 1998

*Indicates statistical significance at 90% confidence level
** Indicates statistical significance at 95% confidence level
*** Indicates statistical significance at 99% confidence level

EXHIBIT 5

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Applications for Consent to the	)	
Transfer of Control of Licenses	)	
	)	CS Docket No. 99-251
MediaOne Group, Inc.,	)	
Transferor	)	
	)	
To	)	
	)	
AT&T Corp.	)	
Transferee	)	

AFFIDAVIT OF ALI SHADMAN
ON BEHALF OF AMERITECH

STATE OF ILLINOIS)
) **ss.**
COUNTY OF COOK)

I, Ali Shadman, being first duly sworn upon oath, do hereby depose and state as follows:

INTRODUCTION

1. My name is Ali Shadman. My business address is 300 South Riverside Drive, Suite 1800, Chicago, IL 60606. I am employed by and serve as the President of Ameritech New Media. I am responsible for all of Ameritech New Media's consumer cable television operations, including launching

and marketing Ameritech New Media's enhanced cable television service, called *americast™*.

2. I received my Bachelor's, Master's and PhD degrees in Electrical Engineering from Oregon State University in 1973, 1974, and 1977 respectively.

3. I began my communications career in 1978, when I was employed by the Telecommunications Research Center of National Iranian Radio and Television in Tehran, Iran. My responsibilities at that time included planning and design of the Iranian Domestic Satellite Network.

4. In 1979, I was employed as a member of the technical staff of International Satellite Communication in Washington, D.C., developing advanced satellite system concepts.

5. In 1983, I was employed by MCI Communications, Inc. (MCI), as a senior member of its technical staff. In 1985, I was promoted by MCI to the position of Director of Technology Development. In that position, I was responsible for the introduction and integration of state of the art telecommunications systems into MCI's network.

6. In 1987, I joined Ameritech Services, where I have held a variety of positions, including General Manager – Network Services and Technology Planning. In those positions, I have been responsible for network operations and systems planning, design and integration.

7. In 1995, I joined Ameritech New Media as Vice President – Operations and Business Development. In that position, I was responsible for planning, systems integration, information systems, construction and operations for Ameritech New Media's broadband network.

8. In 1997, I was appointed Vice President for Corporate Strategy by Ameritech. In that position, I was responsible for working with Ameritech's business units to identify new business opportunities and develop strategies for growth.

9. In February 1999, I was appointed President of Ameritech New Media. At the same time, I was appointed to the Board of Directors of *americast™*, a video programming joint venture involving Ameritech, The Walt Disney Company, BellSouth, GTE and SNET.

PURPOSE OF AFFIDAVIT

10. This affidavit responds to claims by AT&T in this proceeding and elsewhere that: (a) it is not technically feasible for a cable operator to afford customers a choice of Internet service providers (ISPs); and (b) denying cable customers a choice of ISPs will not in any way limit their ability to access the Internet content or portal of their choice.

11. AT&T's claims are wholly without merit. Its analysis of the feasibility of providing subscribers a choice of ISPs is based on the current state of the DOCSIS standards, which were developed by incumbent cable operators to serve their monopoly business models. There is no reason, however, why technology could not be adapted or developed to permit a choice of ISPs. Indeed, Ameritech is currently working with outside vendors to develop technology and equipment built around DOCSIS standards that will permit cable modem subscribers to select from multiple ISPs, and has initiated a trial with AOL and Ameritech.net to test a limited version of this technology. Thus, the Commission should not be beguiled by AT&T's attempt to hide behind the limits of standards created by incumbent operators in a monopoly environment.

12. As discussed below there are various methods by which a cable operator could afford its customers access to multiple Internet service providers. These methods differ greatly in terms of quality of service, complexity to implement, and user friendliness. This affidavit describes several of these methods – in particular, AT&T's "Click Through Access" model; the "Leased Access" model, such as that proposed by Internet Ventures, Inc.; and the "Multiple ISP" model, such as that adopted by Ameritech New Media and others in recently announced cable modem trials – and discusses the advantages and disadvantages of each.

CLICK THROUGH ACCESS MODEL

13. The "Click Through Access" model, which is advocated by AT&T and other cable operators, permits cable subscribers to access Internet content and portals provided by unaffiliated ISPs only by "clicking through" a cable system's affiliated ISP. Under this model, a single ISP (such as @Home or Roadrunner) is granted exclusive access to the cable system's broadband infrastructure to provide Internet access to subscribers. The affiliated ISP provides the servers, routers and other Internet access support facilities and equipment, and manages the use of the cable network for data delivery services, including browsing and e-mail functionalities, which permit subscribers to send and receive e-mail and

access content on the World Wide Web. The affiliated ISP also offers subscribers proprietary content (including audio, video, and interactive functionalities) like that offered by AOL, Yahoo! and others.

14. Under the "Click Through Access" model, all of the cable modem subscribers' data traffic is routed initially through the affiliated ISP's network, which provides subscribers with Internet protocol (IP) addresses, data traffic routing, traffic management, initial security filtering, and other services. As a consequence, end users must subscribe to the affiliated ISP in order to obtain cable Internet access, e-mail and other Internet-related services.

15. Although end users can access other ISPs's content and services under the "Click Through Access" model, they can do so only through the affiliated ISP as an intermediary. End users must pay a monthly service charge to the affiliated ISP for proprietary content and services (like e-mail, chat groups, and other services) even if the end user does not use those services, but rather uses comparable services provided by another ISP. A cable modem subscriber that wants to use an ISP other than the affiliated ISP therefore must pay twice to access his or her ISP of choice.

16. In addition to increasing substantially subscribers' costs, the "Click Through Access" model provides affiliated ISPs significant marketing and promotional advantages, and can have a profound impact on the level and quality of service provided by unaffiliated ISPs. Affiliated ISPs, for example, can intentionally or unintentionally block or add delays (latency) to traffic destined to unaffiliated ISPs because all data traffic must initially pass through the affiliated ISP's network. Because the amount of bandwidth available at any point in the network is limited, affiliated ISPs typically need to develop systems and protocols to manage network traffic based on a myriad of factors, including destination, end user account, and type of transmission. These network management tools and systems could be used to assign different priorities to different types of traffic, and provide different levels of service quality (or even block traffic) depending on the subscriber's Internet account, destination, data protocols and other factors.

17. Under the "Click Through Access" model, affiliated ISPs can offer different and superior quality services (especially services that depend on specific data delivery characteristics) than unaffiliated ISPs. However, the model does not provide subtending ISPs a guaranteed level of service quality. Consequently, such ISPs cannot control the level of service they provide to end users.

18. This model also requires end users to undertake a number of difficult and complex steps to reconfigure their PCs to access their ISP of choice. Under this model, the standard cable modem installation defaults end users PCs to the affiliated ISP's network. Any end user that wants to maintain an existing account, or open a new account, with an unaffiliated ISP must reconfigure his or her PC to access that account. This requires the end user to obtain technical support from the affiliated ISP, the unaffiliated ISP, or both.

19. Service problems under this model are also much more complex and difficult to resolve. Because multiple networks are involved, resolving any service problem requires service personnel first to determine the source of the problem (that is, whether the problem lies with the cable network, the affiliated ISP's network, or the unaffiliated ISP's network) before taking any steps to resolve it. This model therefore requires close coordination among competing ISPs to resolve service and technical problems. However, cable operators and affiliated ISPs have not yet developed coordinated processes and systems to work with unaffiliated ISPs to isolate and resolve customer service problems quickly, nor do they have any incentive to do so in the near term.

20. In short, the "Click Through Access" model denies consumers a real choice of ISP, and substantially increases the costs and potentially decreases the quality and level of services available to cable modem subscribers that seek to obtain Internet access and content from unaffiliated ISPs through the affiliated ISP's network. This model therefore places unaffiliated ISPs at a significant competitive disadvantage.

LEASED ACCESS MODEL

21. Another approach for providing cable modem subscribers a choice of ISPs is the "Leased Access" model, a version of which was proposed by Internet Ventures, Inc. in File No. CSR-5407-L. Under this approach, an ISP could lease a 6 MHz cable channel from a cable operator to offer subscribers a high-speed connection to the Internet. Cable operators would not be required to make any additional investment in equipment to provide ISPs leased access because any necessary system hardware or software would be supplied and maintained by the ISP. Cable subscribers wishing to obtain Internet access from a leased access ISP would purchase it directly from the ISP, which would supply subscribers any necessary equipment and technical support. Thus, under the "Leased Access" model, cable modem subscribers could obtain Internet access from any ISP

leasing access on the system without having to go through an intermediary.

22. While the "Leased Access" model would afford subscribers a choice of ISP, it also would be a grossly inefficient use of cable spectrum. End user data traffic is inherently variable, bursty and unpredictable. The "Leased Access" model, however, would require cable operators to dedicate an entire 6 MHz cable channel to each leased access ISP. Forcing cable operators to allocate a fixed amount of spectrum to each ISP would deny them the flexibility necessary to manage dynamically changing traffic patterns efficiently and effectively. This model would make it especially difficult to allocate and manage scarce return path (subscriber to cable headend) spectrum. This spectrum, which is typically limited to less than 42 MHz of bandwidth, usually is not divided into specific channels, making it difficult or impossible to allocate it among multiple leased access ISPs. As a consequence, return path spectrum could become congested quickly if multiple ISPs purchase leased access to a cable system.

23. Requiring cable operators to allocate a fixed amount of spectrum to each leased access ISP could force cable operators repeatedly to reconfigure and expand their entire networks to alleviate congestion resulting from

spikes in network usage, even if such spikes are localized and do not affect the entire network. For example, a particular cable channel could become congested or overloaded in a relatively small portion of the network (such as the portion operating off of a single node) if a leased access ISP is heavily subscribed in a particular neighborhood. Even if there is plenty of overall data capacity in that portion of the network, a cable operator may be required to incur substantial costs to reconfigure or expand the network to alleviate localized network congestion.

24. Ameritech New Media's proposed trial and other trials have demonstrated that multiple ISPs can share a single 6 MHz cable channel to provide Internet access. However, under the "Leased Access" model, each ISP would use an entire 6 MHz channel. Because many ISPs likely would purchase leased access if they could, this model would significantly and unnecessarily diminish cable spectrum available for other uses and services.

25. This model also would pose a significant risk of frequency interference between ISPs, and between Internet access and other cable services. Because the risk of such interference is inherent whenever multiple services are transmitted over the same cable plant, this model would require cable operators to develop complex processes to coordinate with

multiple ISPs and to monitor and maintain system integrity. Resolving any interference problems created by multiple ISPs would be a complex and time consuming task, depriving subscribers of service in the interim.

26. The "Leased Access" model is not only inefficient, it is also impractical because ISPs are not entitled to purchase leased access for the provision of Internet access. As Ameritech New Media pointed out in its reply comments in FCC File No. CSR-5407-L (filed August 11, 1999), section 612 of the Communications Act, as amended, limits the availability of leased access only to providers of "video programming," and only to the extent they are actually providing "video programming," and not other services. Because Internet access is not "video programming," ISPs cannot lease cable system channel capacity to provide Internet access. As a consequence, the "Leased Access" model is impractical, inefficient and problematic.

MULTIPLE ISP MODEL

27. A third approach is the "Multiple ISP" model exemplified by Ameritech New Media's recently announced cable modem trial with AOL and Ameritech.net. Under the terms of this trial, Ameritech New Media will have arrangements with Ameritech.net (Ameritech's affiliated ISP) and

AOL to provide a choice of ISPs to a limited number of its cable modem subscribers. Due to the narrow scope of this trial, Ameritech New Media has limited the number of participating ISPs. However, there is no technical reason why, over time, this model could not be expanded to include multiple ISPs.

28. Under the trial, Ameritech New Media's cable modem subscribers will be able to subscribe to Ameritech.net or AOL. In either case, Ameritech New Media's subscribers will have a direct, unmediated access to the ISP of their choice. Although subscribers will have a direct connection to their chosen ISP, they will be customers of Ameritech New Media.

29. The "Multiple ISP" model has significant advantages over the other two approaches. It would give cable subscribers a real, meaningful choice of ISPs, with direct, unmediated access to their selected ISP(s). End users would not be forced to purchase unnecessary and unwanted content and services from the cable system's affiliated ISP. Rather, they would purchase cable modem service that included the ISP of their choice from the cable operator, significantly reducing their costs.

30. In addition to lowering subscribers' costs, this model would facilitate service installation and technical support by ensuring that cable operators

and ISPs work cooperatively to identify and resolve any potential network outages or other service problems quickly, and to provide high quality service to end users. This model also would enhance customer satisfaction by providing a seamless customer interface to resolve any service problems.

31. Furthermore, this model would avoid many of the pitfalls of the "Click Through Access" model. In particular, because subscribers would obtain from their cable operator a connection to their chosen ISP that is unmediated by another ISP, there would be no intermediary that could block or delay the transmission of certain types of data, or otherwise undermine service quality. This model also would permit customization of service levels to meet particular ISPs needs because ISPs could contract with the cable operator for various data transport speeds.

32. The "Multiple ISP" model also would avoid the risk of frequency interference inherent in the "Leased Access" model. Although this model would afford subscribers direct, unmediated access to multiple ISPs, only one ISP actually would be transmitting data over the cable network at a time.

33. Thus, unlike the foregoing models, the "Multiple ISP" model would afford cable subscribers a genuine choice of ISPs for broadband access to the Internet without wasting cable system capacity or posing a significant risk of frequency interference.

CONCLUSION

34. As the foregoing demonstrates, there is more than one method by which a cable operator could afford subscribers access to multiple Internet service providers. However, one such method, AT&T's "Click Through Access" model, would not provide end users a genuine choice. To the contrary, it would require subscribers to incur unnecessary costs to access the content of their choice, and (by interposing affiliated ISPs as an intermediary between subscribers and their chosen ISP) limit, potentially significantly, their ability to access the Internet content or portal of their choice.

I declare under penalty of perjury that the foregoing statements are true and correct to the best of my knowledge, information and belief.

Ali Shadman

Subscribed and sworn to before
me this 20th day of August, 1999.

Notary Public

OFFICIAL SEAL
SUSAN M. IZBAN
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 1-6-2002

My Commission expires 1/6/2002

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 23rd day of August, 1999, I caused copies of the foregoing document to be served by first class mail, postage prepaid to the following:

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