FOR PUBLIC INSPECTION

September 6, 2000

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
445 12th Street, S.W. - The Portals
TW-B204
Washington, D.C. 20554

Re: In the Matter of Applications of America Online, Inc. and Time Warner Inc. for Transfers of Control (CS Docket No. 00-30) / Response to Written Questions Regarding Technical Issues Involving Multiple ISP Carriage on Time Warner Cable Systems

Dear Ms. Salas:

In a meeting with Commission staff on August 25, 2000, America Online, Inc. and Time Warner Inc. ("Time Warner") were presented with a series of written questions regarding the carriage of multiple ISPs on Time Warner cable systems generally, and Time Warner’s multiple ISP technical trial in Columbus, Ohio specifically. Attached hereto are the parties’ responses to those questions.
In addition, Time Warner herein produces two confidential documents as exhibits to its answers. Copies of these documents are being submitted with the version of this cover letter marked “Confidential: Not for Public Inspection” and are being filed under seal with the FCC Secretary’s Office and should not be placed in the public record in this proceeding. Copies of all confidential documents are also being delivered under seal to Royce Dickens, Linda Senecal and with the Cable Bureau’s service copies. These confidential documents are marked “Confidential: Not for Public Inspection” and “Copying Prohibited” in accordance with the Protective Order adopted in this proceeding on April 6, 2000 (DA 00-780). A schedule listing the titles of these confidential documents is included with the two copies of the version of this cover letter marked “For Public Inspection.”

Kindly direct any questions regarding this matter to the undersigned.

Sincerely,

Craig A. Gilley
Counsel for Time Warner Inc.

cc: Deborah Lathen, Chief, Cable Services Bureau
William Johnson, Deputy Chief, Policy and Rules Division, Cable Services Bureau
Royce Dickens, Deputy Chief, Policy and Rules Division, Cable Services Bureau
Darryl Cooper, Cable Services Bureau
Peter Friedman, Cable Services Bureau
Carl Kandutsch, Cable Services Bureau
Anne Levine, Cable Services Bureau
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David J. Farber, FCC Chief Technologist, Office of Engineering and Technology
Doug Sicker, Office of Engineering and Technology
Michael Kende, Office of Plans and Policy
James Bird, FCC Assistant General Counsel
Pieter van Leeuwen, Office of General Counsel
International Transcription Service
TIME WARNER
LISTING OF CONFIDENTIAL DOCUMENTS
(Submitted to FCC on September 6, 2000)

1) Time Warner Cable - Multiple ISP Operational Trial Program Plan - August 9, 2000
2) Time Warner Cable - MISP Project - Multiple ISP Test Plan
Responses to Written FCC Questions

Dated August 25, 2000 Concerning the February 29, 2000

Memorandum of Understanding ("MOU") and Multiple ISP Access

1. Open Access Trials: Please describe in detail the architecture of any open access trials AOL and/or Time Warner is conducting. Please explain how the architecture(s) will achieve the nondiscrimination objectives of the MOU.

   Answer: To properly respond to this question, it is important to stress that no fundamental changes are necessary to the basic cable system architecture being deployed by Time Warner Cable ("TWC") in order to implement a multiple ISP approach. The hybrid fiber-coax ("HFC") system architecture that is the cornerstone of TWC’s company-wide system upgrade program supports the delivery of multiple ISPs. However, significant new development is required to prepare to actually use the existing architecture for multiple ISP services. For example, an appropriate policy router must be selected and installed in the TWC headends to determine which IP packets to route to and from which ISP in a multiple ISP environment. Further, new software must be developed to provide acceptable back office functions (e.g., billing, provisioning, customer service) for multiple ISP services. While not changing the fundamental architecture, these enhancements are substantial.

   TWC is now in the process of conducting a multiple ISP trial involving its Columbus, Ohio cable system. The purpose of the trial is to determine the best approach for providing multiple ISPs over TWC cable systems. AOL and Time Warner are committed that, upon restructuring of the Road Runner partnership, which, among other things, is expected to
eliminate existing contractual obstacles, consumers served by TWC cable systems offering cable modem services will enjoy a choice among multiple ISP offerings. The purpose of this trial is to fully identify, understand and resolve the technical and operational issues that arise in a multiple ISP environment.

The basic architecture of the Columbus trial is described in the attached documents (see Exhibits). As is evident from these documents, the system will not in itself favor or disfavor any particular ISP, and TWC has no intention of employing or modifying the system to do so.

The three separate phases and current progress of the Columbus trial are described in detail below:

- **Phase I - Technical Trial.** This phase, which recently commenced, is designed to test and refine TWC's approach to providing multiple ISP services over a single cable system network at a given time. The ISPs that will participate in Phase I are AOL, CompuServe Classic, Juno and Road Runner. This phase of the test is limited to Time Warner Cable employees in the Columbus franchise area. Phase I began on July 28, and this phase is expected to run for one to two months while additional hub sites are activated and more trial subscribers are added to the system. During this phase, provisioning of service and tracking for billing must be performed manually.

- **Phase II - Operational Trial** - This phase will involve the provisioning of multiple ISPs on a single network to a larger group of cable subscribers. The main goal of Phase II is to
define and test provisioning, billing, and customer care systems to support multiple ISPs and to allow the addition of a new ISP service to the network without service disruption to existing ISP services. Another goal is to allow an individual customer to seamlessly switch among ISPs. Phase II will involve between 75-150 TWC and CompuServe employees in the Columbus franchise area.

- Phase III - Commercial Deployment - This final phase will involve the system-wide rollout of multiple ISPs throughout the Columbus franchise area, and will begin once technical and operational issues are satisfactorily resolved. This phase is also dependent on the restructuring of Road Runner to end exclusivity restrictions, which we are hopeful of doing soon. This phase will involve any ISPs that have entered into an affiliation arrangement with Time Warner Cable. Phase III is intended to provide the final refinements for the seamless migration of AOL Time Warner cable systems to the provisioning of multiple ISP services.

Overall, the progress to date has been challenging but promising. Technical solutions are being developed from scratch in order to accommodate multiple ISPs. This includes working with equipment vendors to develop the necessary routing equipment. This also includes specialized system software protocols to configure the system to accommodate multiple ISPs, as well as to allow customers to pick and choose among different ISPs and service level options (e.g. data speeds). Additionally, TWC is developing entirely new ordering, provisioning and billing technology in order to allow each ISP or TWC to directly bill subscribers. Most of these
options have not been previously available and would not have been available absent the pioneering efforts that have coalesced in this Columbus trial.

TWC is thoroughly committed to playing a leadership role in the development of software and hardware solutions that will foster consumer choice among multiple ISPs. Ultimately, the Columbus trial will allow TWC and its vendors to analyze and develop solutions to any technological or operational issues so that TWC’s subscribers can enjoy the benefits of multiple ISP choice. The lessons learned in Columbus will ultimately provide invaluable knowledge and practical experience as TWC rolls out its multiple ISP business model on other systems.

Apart from the activities of TWC, AOL is also presently reviewing and analyzing documentation related to AT&T’s planned six-month multiple ISP trial to be conducted in Boulder, Colorado.

2. **Point of Interconnection:** Please identify the points in the network where the unaffiliated ISP would interconnect with the cable provider. We recognize that ISPs with backbones may not want transport whereas other ISPs may require backbone transport. Will this implementation allow for flexibility to serve either need?

Answer: Each ISP will interconnect with the network at the cable system’s master headend. It should be noted that each TWC master headend typically covers several hundred thousand homes in a cluster of communities throughout a metropolitan area. Each ISP will also be
responsible for obtaining transmission capacity capable of delivering data from the headend to its network and/or network provider. As noted by the Commission, some ISPs may not want transport, whereas other ISPs may require it. We believe that each ISP will have its own needs in this regard, and therefore should have the flexibility and control to design its own technical and commercial solutions for delivering data from its backbone provider to the point of interconnection. As such, no ISP will be required to obtain backbone transport from any entity affiliated with AOL Time Warner as a condition to any multiple ISP arrangement with TWC.

3. **Quality of Service: AOL and Time Warner could discriminate against unaffiliated ISPs with regard to Quality of Service ("QoS").** For example, the transport of data packets could be managed differently depending on their origin and/or destination. What mechanism does AOL and Time Warner intend to implement to ensure nondiscriminatory QoS? If so, please describe the mechanism. How will QoS be provided? Please explain how voice service will be offered on this platform.

Answer: TWC has not decided precisely what QoS mechanisms or performance specifications to use in its broadband network. We anticipate that our decision to implement particular mechanisms will be based on feedback from the Columbus trial. Any decisions regarding QoS mechanisms or performance specifications, for voice or other services, will not be based on affiliation or non-affiliation with AOL Time Warner.
4. **Connectivity:** AOL and Time Warner have the ability to monitor a subscriber’s set-top box and/or cable modem to determine the state of the connection. Will, and how will, AOL and Time Warner ensure that unaffiliated ISPs have the same ability to monitor connectivity?

Answer: In a multiple ISP environment, the role of TWC as a cable system operator and of ISPs, including AOL, will remain distinct. In the contemplated system architecture, TWC will be responsible for monitoring the connection between each ISP’s interface at the Point of Interconnection and the customer’s cable modem. AOL, in its role as an ISP, will have no special ability to monitor cable modem connectivity not available to any other ISP. Any connectivity problems between the customer’s premises and the Point of Interconnection will be referred by any ISP, affiliated or unaffiliated, to TWC for resolution.

5. **Caching:** In order to provide their customers with competitive, quality services, unaffiliated ISPs will require caching capability. How will AOL and Time Warner ensure that unaffiliated ISPs have nondiscriminatory caching ability? Will unaffiliated ISPs co-locate at AOL’s local caching servers? If not, how does AOL and Time Warner intend to address this issue? Will unaffiliated ISPs have the same caching capability as affiliated ISPs? Please explain transparent versus proxy caching implementations. Will AOL and Time Warner utilize transparent or proxy caching?
Answer: As noted above, the roles of TWC as a cable system operator and of AOL as an ISP service will remain distinct. Decisions as to content caching strategies are the domain of each ISP, including AOL, and such strategies will not be dictated to the ISP by TWC in its role as manager of the broadband infrastructure. Thus, the approach to caching will be primarily dependent on the business judgment and system design of each ISP.

TWC does not contemplate having any ISP's servers, including AOL's, located at its headends. TWC, however, may pursue offering a turnkey service to ISPs desiring to implement transparent caching using TWC servers at the cable system headend. To the extent TWC does choose to offer caching services, TWC will do so through arms length negotiations and without regard to whether the ISP is affiliated with AOL Time Warner.

6. **Multicasting:** Will unaffiliated ISPs have the same ability to provide multicasting as the affiliated ISPs? Please explain in detail the architecture that will allow unaffiliated ISPs to provide such multicasting capabilities.

Answer: We expect that the policy based routing approach to multiple ISP provisioning will not inhibit any ISP from multicasting, and we are testing this approach in Columbus. Multicast support is a complicated issue, especially if it is to take full advantage of the shared media properties of broadband cable networks. Nevertheless, any ISP, whether affiliated or unaffiliated, entering into a cable modem service arrangement with TWC will be free to implement its own multicast support solutions.
7. **Routing**: Do you intend to use source-based routing? MPLS routing? Policy-based routing, or some other method?

Answer: A final decision as to the precise routing approach to be used nationwide has not been made. The routing approach initially selected by TWC for the Columbus technical trial uses policy based routing. However, TWC also expects to test various alternative routing approaches and assess whether any of those approaches provides a superior ability to meet the needs of ISPs and consumers. A final decision can only be made after the trial because the tradeoffs are complex and new technologies are continuing to be developed.

8. **Servers**: Who will manage DNS? Who will manage TFTP? Who will manage DHCP? Please describe in detail how IP address space will be managed.

Answer: Each ISP will manage and control its own servers. TWC will manage the DHCP and TFTP servers used for DOCSIS cable modem provisioning. The router at the Point of Interconnection will be the common point through which cable modem traffic must pass, and therefore must be managed by TWC. The exact DNS architecture has not been determined but is being evaluated as part of the Columbus trial.

TWC will always manage the IP address space for all devices that connect to the cable network (namely the Cable Modem, the CMTS and other network elements up to the Point of Interconnection). The DOCSIS cable modem itself will be allocated a private address and will
only be accessible by TWC. ISPs will have two options in the allocation of IP addresses to PCs
or other devices in the home:

1. The ISP can provide TWC with a routable (public) IP address space (or
   subnet). TWC will allocate these addresses from those blocks to those
   customers (actually their PCs) who select service from that ISP.

2. The ISP can perform its own IP address allocation. In that case, TWC will
   first allocate a temporary private IP address to the customer's PC as part of
   the DOCSIS initialization. When the customer logs on, the ISP will assign
   the customer a permanent, public IP address as part of a session set-up,
   superceding the private IP address assigned by TWC.

9. **Capacity Planning:** How do you intend to do capacity planning as ISPs are added to
   the network? Will unaffiliated ISPs be able to obtain sufficient capacity as their
demand increases?

Answer: We believe that capacity planning will depend primarily on the number of
customers and bandwidth usage patterns, and not on the number of ISPs carried on the cable
system. The HFC cable system architecture allows capacity to be increased by creating
additional nodes; no fundamental changes to existing architecture are needed to address future
capacity requirements. Much will also be learned about future capacity needs from the results of
the Columbus trial.
10. **What restrictions will be placed on consumer bandwidth consumption?**

Answer: TWC plans to work with ISPs to develop different tiers of service to end users. Such arrangements will not be made based on affiliation or non-affiliation with AOL Time Warner.

11. **Will the set-top box telephony be open to unaffiliated ISPs?**

Answer: Set top boxes were not contemplated in the MOU. The delivery of Internet and online service by TWC cable systems will be based on DOCSIS cable modem interface. However, as stated before, any ISP will be able to deliver all types of data, including voice traffic, over the DOCSIS cable modem.

12. **Will unaffiliated ISPs be permitted to offer interactive services via the set-top box?**

Answer: Set top boxes were not contemplated in the MOU. The delivery of Internet and online service by TWC cable systems will be based on DOCSIS cable modem interface. TWC is, however, always willing to discuss business arrangements with potential providers of any other services.
13. Among the following, what end-user services will unaffiliated ISPs be permitted to provision?

To the extent that unaffiliated ISPs will be permitted to provide any of the following services, please identify and explain any limitations that will be imposed on that ability. To the extent that unaffiliated ISPs will not be permitted to provide any of the following services, please explain the basis for your decision to not permit unaffiliated ISPs to provide these services.

(a) Data
(b) Voice Over IP
(c) Streaming Video
(d) Multicasting identical information to many end-users
(e) End-user Webservers
(f) Virtual Private Networks
(g) Switched Cable Telephony
(h) Interactive Television
(i) Video Broadcasting
(j) Video Downloads

As explained above, agreements based on the MOU will be for services delivered via DOCSIS interfaces primarily geared to the PC. The precise scope of the services provided will be determined through the negotiations with particular ISPs, and will be primarily based on the services they want to provide. No decisions regarding scope will be based on affiliation with
AOL Time Warner. Switched telephony is beyond the scope of the services that will be provided under these agreements, and this is so for AOL as for unaffiliated ISPs.

While AOL and Time Warner have not thoroughly analyzed the technical and business issues relating to many of the other services listed above, to the extent such services are consistent with DOCSIS IP standards, TWC will be open to discussions with any ISP, affiliated or unaffiliated, relating to the offering of any such services. In particular, as specifically stated in the MOU, TWC will not restrict streaming video.

14. **Selection of ISP:** Explain in detail how the customer will select an ISP? Will a client on the customer’s PC allow them to select a new ISP or will some other mechanism provide this capability?

Answer: TWC and its vendors are in the process of developing an auto-provisioning mechanism so that when a customer first signs up for cable modem service, he or she will have the instant ability to choose among all of the various ISPs on the cable system. It should be noted that the auto-provisioning process will not in any way interfere with the subsequent experience of the consumer using their pre-existing ISP. TWC intends to have a web site that will allow new and existing customers to easily choose among ISPs. Customer will also be able to call TWC offices to make their initial ISP selections or to change ISPs. In addition, customers will be able to call or otherwise contact ISPs for service, in the case of any ISPs that want to sell directly.
15. **First Screen:** Will the combined firm "brand" the user's first screen (or subsequent screen) when the user is not an ISP customer of AOL? In other words, will the user see branding, advertising, or other AOL and Time Warner related material on the screen?

Answer: As AOL Chairman and CEO Steve Case testified before the Senate Commerce Committee on March 2, 2000, "Broadband consumers will not go through AOL unless they choose AOL. If they choose another Internet Service Provider, they will not see AOL or its front screen." Consistent with this commitment, the contents of the first screen will be selected by the ISP. If they choose to enter into agreements for content from any Time Warner entities, or to accept advertising from them, that material will be included based on separate agreements as to those matters. In addition, TWC will seek to obtain the right to have a link to a TWC local content site in its affiliation agreements with ISPs. This is similar to TWC's agreements with cable programmers, which generally provide TWC with the right to insert a few minutes of local advertising per hour.

16. **Pricing:** Please address the following questions:

(a) The MOU states that AOL and Time Warner will not discriminate in interconnection prices based on affiliation, but also that "the economic arrangements reached by AOL and Time Warner and ISPs wishing to provide broadband service will vary depending on a number of factors (such as speed, marketing commitments, and nature and tier of the service desired..."
to be offered)...” Please explain in detail how these factors will be valued such that ISPs can be assured that each is paying the same as other ISPs are paying for the right to connect to Time Warner’s cable network. What will be the basis for pricing the transport component of the service?

(b) Please explain whether AOL and Time Warner intend to establish volume discount levels and, if so, how AOL and Time Warner will ensure that pricing is nondiscriminatory. How in general will AOL and Time Warner ensure that pricing is nondiscriminatory?

Answer: In accordance with the principles set forth in the MOU, TWC intends to enter into commercial arrangements with multiple ISPs for the joint offering of cable modem service by TWC and each such ISP. TWC anticipates that the financial and other terms of such arrangements may vary as to each ISP, but in no event will the economic arrangements be based on affiliation or non-affiliation with AOL Time Warner.

The MOU lists a number of factors other than affiliation to illustrate the kinds of things the economic terms could be based on. TWC intends to negotiate with ISPs individually, and indeed, our ongoing negotiations verify that different factors will be important to different ISPs. TWC also believes that it and the ISPs need to be free to continue to respond to consumer wishes and other developments in the marketplace. TWC also believes that the marketplace can enforce its commitment to nondiscrimination based on affiliation. Commercial agreements routinely
provide various representations and warranties, and enforcement of such obligations is a routine contractual matter.

17. **Billing Relationships**: Please explain in detail the billing arrangements that will exist between the customer and the service providers.

Answer: As stated in the MOU, each ISP offered on TWC’s systems will have the opportunity to establish direct billing relationships with customers. The general mechanism will be that the party (TWC or the ISP, as the case may be) that makes the sale will be responsible for billing. TWC is also willing to handle all billing for ISPs that would like for it to do so.

18. **Customer Service**: How will AOL and Time Warner ensure that customers of unaffiliated ISPs receive nondiscriminatory service for technical service problems that may arise within the Time Warner cable system?

Answer: TWC’s goal is to provide seamless customer care for all subscribers who receive ISP services offered on TWC’s systems. We believe that good customer care is crucial as to all customers receiving ISP service on its systems, regardless of whether the ISP is affiliated. Customers who use TWC cable system to obtain Internet service will most likely blame the cable operator for any problems they encounter, and switch to other facilities providers such as DSL, if they are unhappy with the service they receive from any ISPs on TWC’s cable systems. So, TWC self interest will ensure that customer service is not handled based on an ISP’s affiliation
with AOL Time Warner. In addition, TWC’s contracts with ISPs will contain provisions relating to customer care, with obligations both on the part of TWC and each ISP. As stated above, enforcement of such provisions is a routine contractual matter.

19. Among the following, what types of customer service and/or control will unaffiliated ISPs be permitted to provide? To the extent that unaffiliated ISPs will be permitted to provide any of the above-listed services, please identify and explain any limitations that will be imposed on that ability. To the extent that unaffiliated ISPs will not be permitted to provide any of the above-listed services, please explain the basis for your decision to not permit unaffiliated ISPs to provide these services.

(a) QoS

Answer: Subject to the limitations imposed by the parameters of the technology (e.g., DOCSIS standard), TWC may offer individual QoS solutions to each ISP independent of whether that ISP is affiliated with AOL Time Warner.

(b) IP Address Management. Who assigns IP addresses?

Answer: As explained in detail in response to question 8 above, TWC must provide IP addresses for the management of the DOCSIS cable modem itself. ISPs will have a choice to either provide a block of routable IP addresses for TWC to use on their behalf, or assign the IP addresses directly to the PC or other devices connected to the cable modem.
(c) Tracking of end-user traffic

Answer: To the extent this question asks about consumer bandwidth consumption, both parties will likely monitor traffic levels. To the extent the question asks about the destination of traffic, TWC and the ISPs offered on its systems will comply with all applicable privacy laws and regulations. No distinction will be made based on affiliation or non-affiliation with AOL Time Warner.

(d) Control of first page seen by end-user

Answer: As explained in response to question 15 above, each ISP will solely control the user experience of its customers, including the content and presentation of the first page or screen seen by each of its customers obtaining its services via the cable network.

(e) Provisioning of customer service (i.e., who will the end-user contact first to get repairs or questions answered)?

Answer: Who a particular customer calls to have customer service questions answered or repairs done is up to that particular customer at the time he/she make the customer service call. TWC will not restrict any customer from contacting its ISP for customer service, and will likewise not restrict an ISP from encouraging or requiring its customer to contact it, rather than TWC, for customer service inquiries. Additional guidance relating to customer service is expected to be obtained in the Columbus trial. In particular, TWC hopes to develop a “hot
transfer” mechanism whereby a customer service call to an ISP can immediately be handed off to TWC if the problem is on the cable operator’s side of the Point of Interconnection, and vice versa.

(f) Retailing of the ISP over cable service

Answer: Both TWC and the ISP will have the opportunity to market the ISP’s services to subscribers, and ISPs will not be restricted in the manner in which they may conduct their marketing activities to promote their services.

(g) Installation of the cable modem

Answer: TWC will perform all installations, to the extent installation is required. One of TWC’s goals is to enable self-installation of cable modems.

(h) Who has access to proxy service information on customer usage habits?

Answer: Each ISP will own and operate its own proxy server. There will be no limitation on the ability of an ISP to monitor proxy service information on customer usage habits.