### **AOL Time Warner**

Steven Teplitz
Vice President and
Associate General Counsel

April 2, 2003

#### Via Hand Delivery

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
c/o Vistronix, Inc.
236 Massachusetts Avenue, N.E.
Suite 110
Washington, DC 20002

Re: CS Docket No. 00-30

Dear Ms. Dortch:

Attached, please find an original plus four copies of the Petition of AOL Time Warner Inc. for relief from the condition restricting AOL Time Warner's provision of streaming video advanced Instant Messaging high speed services via AOL Time Warner broadband facilities.<sup>1</sup>

Please do not hesitate to contact me if you have any questions regarding the foregoing.

Respectfully submitted,

Steven N. Teplitz

cc: Chairman Michael K. Powell
Commissioner Kathleen Q. Abernathy
Commissioner Jonathan S. Adelstein
Commissioner Michael J. Copps
Commissioner Kevin J. Martin
Susan M. Eid

<sup>&</sup>lt;sup>1</sup> In the Matter of Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, 16 FCC Rcd 6547 (2001) ("Order").

Stacy Robinson
Johanna Mikes
Jordan Goldstein
Sam Feder
W. Kenneth Ferree
Deborah Kline
Royce Sherlock
John Rogovin
James Bird
Qualex International

# Before the FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

In the Matter of:	)	
	)	
Applications for Consent to the Transfer	)	
of Control of Licenses and Section 214	)	CS Docket No. 00-30
Authorizations by Time Warner Inc. and	)	
America Online, Inc. Transferors, to	)	
AOL Time Warner Inc., Transferee	í	

### **PETITION**

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Dated: April 2, 2003

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#### **PETITION**

AOL Time Warner Inc. ("AOL Time Warner"), pursuant to the procedures established by the Federal Communications Commission ("Commission") in the above-captioned proceeding, hereby petitions for removal of the condition restricting its ability to offer Internet users streaming video advanced Instant Messaging-based high-speed services ("AIHS") via AOL Time Warner broadband facilities (the "Condition"). When the Commission imposed the Condition, it recognized that its theory of merger-specific harm in the nascent instant messaging ("IM")<sup>2</sup> arena was based largely upon conjectural concerns. Accordingly, the Condition was specifically

In the Matter of Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, 16 FCC Rcd 6547 at ¶ 196 (2001) ("Order"). Specifically, the Order precludes AOL Time Warner from offering "an AIHS application that includes the transmission and reception, utilizing a NPD over the Internet Protocol path of AOL Time Warner broadband facilities, of one- or two-way streaming video communications using NPD protocols – including live images or tape – that are new features, functions, and enhancements beyond those offered in current offerings such as AIM 4.3 or ICQ 2000b." Id. at ¶ 191. The Condition was adopted by a 3-2 vote with Commissioners Powell and Furchtgott-Roth issuing strong dissents.

<sup>&</sup>quot;IM" is a term used to describe Internet-based services that provide consumers with the ability to exchange short text messages that appear virtually instantaneously on each other's screen. While similar in many respects to e-mail, IM incorporates a number of additional enhanced features that make it possible to, among other things, maintain a list of online correspondents and monitor their online status.

crafted to include a mechanism through which AOL Time Warner could obtain relief by showing that, due to circumstances the Commission did not anticipate, the Condition is no longer necessary.<sup>3</sup> As shown below, and in the attached affidavit of Professor William P. Rogerson, there is clear and convincing evidence that the assumptions and predictions made at the time the Condition was imposed – which provided the factual predicate for the Condition itself – have proven to be incorrect. These material changes in circumstance make plain – individually, and clearly on a collective basis – that, even assuming *arguendo* that the Condition was justified at the time it was imposed, it is "no longer necessary in the public interest, convenience, and necessity." Accordingly, AOL Time Warner respectfully requests that it be relieved of the obligations set forth in paragraphs 325-328 of the *Order*.

#### I. INTRODUCTION AND SUMMARY

America Online, Inc. ("AOL") and Time Warner Inc. ("Time Warner") announced their plans to merge on January 10, 2000.<sup>5</sup> At that time, the telecommunications, high-tech, media and entertainment industries were convinced of the unlimited possibilities that would quickly result from harnessing the power of an increasingly broadband Internet. It was in this

<sup>&</sup>lt;sup>3</sup> See Order at ¶ 189 ("Our condition is balanced because it contains ways for AOL to show that, due to events we do not anticipate, the condition is no longer necessary."). The Order requires the Commission to issue its decision in this matter within 60 days from the date on which AOL Time Warner files its reply. See id. at ¶ 196.

Id. at ¶ 195. Accord Fox Television Stations v. FCC, 280 F.3d 1027, 1043-44 (D.C. Cir. 2001) ("Fox Television Stations"); modified, 293 F.3d 537 (D.C. Cir. 2002) ("Fox Television Stations II") (holding that Commission's retention of a rule that could not be justified as "necessary in the public interest" was arbitrary and capricious). See also infra n. 100 and accompanying text.

See AOL Press Release, "AOL & Time Warner Will Merge To Create World's First Internet-Age Media & Communications Company," January 10, 2000, available at <a href="http://media.aoltimewarner.com/media/newmedia/cb\_press\_view.cfm?release\_num=15100390">http://media.aoltimewarner.com/media/newmedia/cb\_press\_view.cfm?release\_num=15100390</a>.

environment that the instant messaging issue was introduced into the Commission's merger proceeding. For some, the IM debate became a debate over the future of the Internet itself.<sup>6</sup>

In the ensuing three years, much has changed: the dot.com bubble dramatically burst and the stock market has experienced significant losses from its record highs; broadband adoption has not grown as quickly as once predicted; and investment and growth are in retreat. <sup>7</sup> The passage of time also has served to show that the fears of those who predicted a combined AOL/Time Warner would somehow dominate the Internet have not come to pass. Rather, AOL Time Warner today is competing vigorously with others to find the right mix of content, applications, and services that will appeal to consumers in a broadband world.

It is against this backdrop of a changed – and still changing – environment that the Commission considers this petition. As a general matter, IM has continued to grow and evolve, but it has not become, as some had predicted, the platform through which all future Internet

To put this in context, some critics of the proposed merger also predicted that Interactive Television, and specifically "AOLTV," would be the platform for the future and sought prophylactic regulatory protections to guard against a variety of imagined harms in this area as well. See Order at ¶ 238-39. As with IM, the predictions and fears related to Interactive Television did not come to pass. In fact, as of November 2002, AOL stopped taking orders for the AOLTV services. See Jim Hu, "America Online confirms end of AOLTV," February 18, 2003, available at <a href="http://news.com.com/2100-1023-984920.html">http://news.com.com/2100-1023-984920.html</a> (describing how, "[w]hen it launched, AOLTV was considered an initial glimpse into the potential of the merger between AOL and Time Warner," but quoting AOL spokeswoman Anne Bentley as stating that the choice to discontinue selling the AOLTV service was based "on not a lot of interest going forward in continuing to develop that particular platform"). Similarly, Microsoft has scaled back its ITV efforts. See, e.g., Richard Shim, "Microsoft: Layoffs, changes in TV groups," April 24, 2002, available at <a href="http://news.com.com/2100-1040-891413.html">http://news.com.com/2100-1040-891413.html</a> (stating that "[f]ollowing a period of high expectations for companies in the interactive TV market, the market has cooled significantly").

<sup>&</sup>lt;sup>7</sup> See, e.g., "Bubble: The Roots of the 90's Boom & Bust," Special Report of the Washington Post, available at <a href="http://www.washingtonpost.com/wp-srv/business/bubble/series.htm">http://www.washingtonpost.com/wp-srv/business/bubble/series.htm</a> (discussing, inter alia, Dow Jones average drop from over 10,000 to below 8,000).

services will be delivered.<sup>8</sup> While Microsoft and Yahoo! have introduced streaming video AIHS services, IM has remained largely what it was in January 2000: a popular communications tool, offered to the public primarily for free by a variety of providers, typically as an adjunct to other interactive products and services.

\* \*

As the *Order* makes clear, the Condition was premised upon an interrelated chain of conclusions and predictions:

- That AOL was the dominant provider of IM services and, absent interoperability, the "strong 'network effects'" associated with IM would cause AOL's unassailable lead in text-based IM to "swell" over time;
- That AOL's dominance in text-based IM would afford the merged company an anticompetitive first-mover advantage in streaming video AIHS,<sup>9</sup> creating barriers to entry and foreclosing competition; and
- That a sizeable Names and Presence Directory ("NPD")<sup>10</sup> is an "essential input" for AIHS, and no other competitor could attract a sufficiently large NPD so as to provide competition to AOL in the anticipated marketplace for AIHS.

Relying on these findings and predictions for the future, the Majority concluded that AOL would have the incentive and ability to stifle competition and innovation in future streaming video

<sup>&</sup>quot;Underlying the Majority's analysis is the clear view that IM is the new phone system – that it will be a mass market, public network . . . . [u]nlike the Majority, I find it cavalier to conclude or even suggest that IM is the essential platform for real-time interactive services." Statement of Commissioner Michael K. Powell, Concurring in Part and Dissenting in Part (hereinafter Powell Separate Statement) at 7 (emphasis in original).

<sup>&</sup>quot;AIHS," which is a term coined by the Majority, describes a potentially broad range of existing and future services. Streaming video AIHS, which is what the Condition prohibits AOL Time Warner from offering over AOL Time Warner broadband facilities, comprises only a small subset of that broader category.

A NPD is a database of users' unique names and addresses combined with a "presence detection" function.

AIHS applications.<sup>11</sup> The Condition was imposed to prevent the merger from causing or contributing to these outcomes.<sup>12</sup> In addition to the restriction on the delivery of streaming video AIHS, the Commission also required AOL Time Warner to report regularly on the actions it has taken to achieve interoperability of its IM offerings and others' offerings.<sup>13</sup>

Today, after more than two years of real-world experience since the imposition of the Condition, there is clear and convincing evidence that IM has not evolved as the *Order* predicted, and none of the harms feared by the Majority have come to pass – nor would they occur if the Condition is lifted. Instead:

- Based on current share data, share trends and other competitive conditions, AOL is not dominant in the provision of IM services today and there is no danger of "network effects" causing AOL's share to "swell";
- As Microsoft and Yahoo! have each independently introduced streaming video AIHS, AOL does not have and cannot obtain a "first mover" advantage in this area; and
- By bundling Windows Messenger and Passport into Windows XP, in addition to offering its popular stand-alone MSN Messenger service, Microsoft has on its own become a significant competitor in IM- and presence-enabled services.

Given these material changes, there is clear and convincing evidence that the Condition today is not necessary to protect the public interest from the purported harms the *Order* sought to address. To the contrary, this artificial restraint on AOL's provision of streaming video AIHS harms the

See Order at ¶ 130; see also id. at ¶ 313 ("[w]hile the merger may well stimulate the development and deployment of new services, if the merger in fact diminishes competition and consumer choice with respect to advanced 'IM-based' services . . . as we predict, then the merger's potential stimulation of the development of new services will not guarantee that consumers will benefit from innovation, price competition, or diversity of choices with respect to these services.").

See id. at ¶ 188 ("To prevent AOL Time Warner, as a result of the proposed merger, from becoming more able or likely to dominate AIHS, we impose a prophylactic condition.").

See id. at ¶¶ 197, 327 ("Reporting Condition").

public interest by negatively affecting investment and innovation.<sup>14</sup> Continued application of the Condition serves only to deprive consumers of the benefits of competition – namely, increased innovation and choice. When a merger condition that was intended to protect competition instead turns out to burden innovation and reduce competition, as is the case here, the Commission must remove it.<sup>15</sup> Based on the same set of materially changed circumstances, the *Reporting Condition* is no longer necessary and there is good cause to remove it as well.<sup>16</sup>

## II. IN LIGHT OF MATERIALLY CHANGED CIRCUMSTANCES, THERE IS NOW CLEAR AND CONVINCING EVIDENCE THAT THE CONDITION SHOULD BE REMOVED.

Despite the *Order's* acknowledgment, highlighted below, that a large number of speculative assumptions were necessary to justify the Condition, the Majority found that "[on] balance, we find it appropriate to impose" the Condition.<sup>17</sup> In so doing, the Majority nevertheless noted that "we recognize a number of factors that signal caution, including the relative novelty of the services . . . [and] because the markets are changing rapidly." <sup>18</sup>

In his dissent to the Condition, then-Commissioner Powell noted: "Our actions may very well affect innovation, by restricting AOL's incentives to innovate, and by favoring competitors, who can innovate without interoperating with AOL, thus restricting AOL in a market for future services . . . . Rather than preserving a competitive market, we may do nothing more than tip the market to another player." *Powell Separate Statement* at 11.

See Order at ¶ 195 (Commission will remove merger condition if it is "no longer necessary" in the public interest). Accord In re Application of GTE Corporation, Transferor, and Bell Atlantic Corporation, Transferee, 16 FCC Rcd 16915, 16918 ¶ 7 (2001) ("GTE/Bell Atlantic") (Commission will remove merger condition that forecloses competition); In re Application of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, 15 FCC Rcd 17521, 17523 ¶ 21 (2000) (same). The Commission's decision on the instant petition constitutes final agency action and is immediately reviewable by the Court of Appeals. See Western Union Telegraph Co., et al. v. FCC, 773 F.2d 375, 376 (D.C. Cir. 1985) (jurisdiction contained in 28 U.S.C. § 2344).

AOL Time Warner has made four submissions pursuant to the *Reporting Condition*. No public comment has been received with respect to any of the filings.

<sup>&</sup>lt;sup>17</sup> Order at ¶ 133.

<sup>&</sup>lt;sup>18</sup> *Id*.

Accordingly, and appropriately, the *Order* set forth a mechanism (including a time deadline for Commission action) "for AOL to show that, due to events we do not anticipate, the condition is no longer necessary." Specifically, the Commission provided that:

AOL Time Warner may seek relief from the condition by filing a petition demonstrating that imposition of the condition no longer serves the public interest, convenience and necessity because there has been a material change in circumstance, including new evidence that renders the condition on offering AIHS video services no longer necessary in the public interest, convenience and necessity. If AOL Time Warner proffers market share information as evidence that the condition no longer is necessary in the public interest, convenience and necessity, AOL Time Warner must demonstrate that it has not been a dominant provider of NPD services for at least four (4) consecutive months.<sup>20</sup>

As explained below, material changes in circumstances demonstrate that the Condition is no longer "necessary in the public interest, convenience and necessity."

### A. The Condition Was Based On Predictions, Assumptions And Conjectural Harms.

While the Majority examined the facts and circumstances related to IM that existed at the time of the merger review, it is without question that the Condition itself was based squarely on predictions of how text-based IM services – and yet-to-be implemented AIHS services – would develop in the future. That the Majority was cognizant of the speculative and predictive nature underlying its action is evident by the language used throughout its discussion and analysis of the Condition. For example, the *Order* notes that in an effort to promote the policies of the Communications Act, the Commission may "plan in advance of foreseeable events instead of waiting to react to them." Similarly, in failing to define with precision a relevant market for

<sup>&</sup>lt;sup>19</sup> *Id.* at ¶ 189.

<sup>&</sup>lt;sup>20</sup> *Id.* at ¶ 195.

<sup>&</sup>lt;sup>21</sup> Id. at ¶ 150 (citation omitted) (emphasis added).

purposes of its IM analysis, the *Order* relied on the well-established precept that the Commission does not need "tangible evidence . . . but is permitted to rely on its expertise to make *predictive judgments*." In fact, the text of the *Order* is replete with examples highlighting the Majority's tacit recognition that the Condition was a "best guess" of highly uncertain future events, including statements such as:

- "IM-based services are relatively new but have shown enormous growth in popularity in recent years.... These features, besides being useful in their own right, are predicted to have vast potential as a "platform" for the development of additional applications in the future, particularly as users obtain high-speed Internet access":<sup>23</sup>
- "We then find that the proposed merger would give AOL Time Warner substantial, and perhaps insurmountable, advantages in providing advanced IM-based services over the high-speed Internet platform";<sup>24</sup>
- "Given these findings, the combination [of Time Warner and AOL] substantially increases the probability that AOL's dominance in the narrowband text-messaging world will persist in the world of high-speed interactive services";<sup>25</sup>
- "AIHS are novel services, but we and many others believe that they will be significant in the near future"; 26 and
- "Seeing a foreseeable and likely danger to competition in AIHS, we can act promptly and with confidence." 27

Even assuming these predictions and conclusions were reasonable when the Condition was originally imposed, more than two years of actual experience clearly and conclusively show

<sup>&</sup>lt;sup>22</sup> Id. at ¶ 152 n.421 (internal quotations omitted) (emphasis added). See also id. at ¶ 152 ("A more precise definition of the relevant market is not necessary here, where the Commission can accurately assess the competitive impact of the merger without such a detailed analysis.") (emphasis added).

<sup>&</sup>lt;sup>23</sup> *Id.* at ¶ 129 n.366 (emphasis added).

<sup>24</sup> Id. at ¶ 132 (emphasis added).

<sup>25</sup> Id. at ¶ 130 (emphasis added).

<sup>&</sup>lt;sup>26</sup> Id. at ¶ 188 (emphasis added).

<sup>&</sup>lt;sup>27</sup> Id. at ¶ 184 (emphasis added).

that the crystal ball through which the Majority gazed did not correctly forecast the future.<sup>28</sup>

And stripped of the faulty assumptions and predictions that provided its very foundation, the Condition can no longer stand.

- B. AOL Is Not "Dominant" In The Provision Of IM Today And IM Is Not Likely To "Tip" To AOL In The Future.
  - 1. The Majority Predicated Its Decision To Impose The Condition On Its Belief That AOL Was The "Dominant" Provider Of Text-Based Instant Messaging.

The central pillar of the Condition was the assumption that AOL's then existing position of "dominance" in text-based IM would not only persist but grow, enabling AOL to leverage that position in an anti-competitive manner into AIHS. In particular, the Majority predicted that (1) a new category of services – AIHS – would emerge, <sup>29</sup> and (2) those services would build upon existing text-based IM offerings – and, specifically, their NPDs. <sup>30</sup> These assumptions, combined with the conclusion that "NPD services exhibit strong network effects," <sup>31</sup> placed critical significance on AOL's "share" of text-based IM at that time.

To be clear, it is not our intent to reargue the conclusions reached by the Majority. Instead, assuming *arguendo* that the Condition was reasonable at the time the *Order* was adopted, our point in this Petition is to demonstrate that material changes in the ensuing years provide clear and convincing evidence that a different conclusion regarding the necessity of the Condition must be reached today.

See, e.g., Order at ¶ 140 ("Many new services and applications based on 'simple text' IM are being developed... Many experienced industry observers believe that these services, including AIHS, will be popular.") (citations omitted).

See id. at ¶ 145 ("Despite the quantum leap that all these new services represent beyond IM, they are like IM in one respect. That is, a provider of AIHS depends on its NPD as much as a provider of IM does.") (citation omitted). The Majority concluded that an NPD is an "essential input" for IM services. Id. at ¶¶ 129, 138. See also id. at ¶ 138 n.376 ("An essential input is a component of a service or product without which the service or product cannot be created and provided to others.").

<sup>31</sup> *Id.* at ¶ 158.

During the merger review proceeding, AOL's IM rivals claimed that AOL enjoyed an 80-90 percent share of IM users.<sup>32</sup> AOL submitted data showing its share of IM users was approximately 65 percent.<sup>33</sup> Without relying on any specific data or methodology, the Majority concluded that "AOL, by any measure described in the record, is the *dominant* IM provider in America."<sup>34</sup> It also found that "the IM business is not competitive"<sup>35</sup> and that AOL would dominate NPD-based services for the foreseeable future.<sup>36</sup>

Based on these assumptions, the *Order* went on to conclude that AOL's NPD would "further swell" while its competitors' would "shrink." This prediction served as the very foundation of the Condition, as then-Commissioner Powell explained in his separate statement:

The Majority essentially employs a market "tipping" analysis in an effort to make this case, attempting to demonstrate that the IM market has nearly tipped, or will tip when AOL combines with Time Warner. The Majority avers, however, that it expresses no opinion on whether its conclusions can be read as a finding the market has tipped . . . . Whatever the semantics of its conclusions, the Majority's market tipping analysis is a critical analytical underpinning for the IM condition.<sup>38</sup>

More than two years of evidence demonstrates that this critical underpinning – that AOL's share of IM users would inexorably grow – is invalid today.

See, e.g., ex parte submitted by Gerard J. Waldron, Covington & Burling, counsel to Microsoft, October 13, 2000 (stating that AOL has "an 80-90% market share"); "Industry White Paper on AOL's Submissions to the IETF and the FCC," an attachment to an ex parte filed by Tribal Voice, July 21, 2000 ("a commanding 90% share").

<sup>&</sup>lt;sup>33</sup> See ex parte submitted by Peter D. Ross, Esq., Wiley, Rein and Fielding, December 9, 2000 at 5.

<sup>&</sup>lt;sup>34</sup> Order at ¶ 129 (emphasis added).

<sup>35</sup> *Id.* at ¶ 149.

<sup>&</sup>lt;sup>36</sup> *Id.* at ¶ 155.

Id. at ¶ 155 ("This will continue until the largest provider's network is the dominant one, perhaps yielding the provider monopoly control of the market.").

Powell Separate Statement at 4-5 (emphasis added).

### 2. There Is No Factual Basis To Conclude That AOL Is "Dominant" In IM Today.

In the more than two years since the *Order* was adopted, IM services have continued to rapidly develop and become more competitive. In fact, AOL's "share" of IM users has declined while its competitors' shares have grown. As a result, and contrary to the Commission's predictions, AOL today is not "dominant" in the provision of IM or any related NPD-based service. Specifically, AOL faces stiff competition from Microsoft's MSN Messenger, Yahoo! Messenger, and a number of smaller IM providers.

The *Order* invites AOL, when petitioning the Commission to lift the Condition, to provide evidence that it has not been a "dominant provider" of NPD-based services for four consecutive months, <sup>39</sup> and we do so now. Data compiled by comScore Media Metrix ("Media Metrix"), the leading Internet audience measurement service in North America, <sup>40</sup> show that AOL's two major competitors, Microsoft and Yahoo!, have averaged 22.2 and 19.3 percent, respectively, of the share of IM users per month over the past four months. For its part, AOL has averaged 58.5 percent share of IM users each month during this time. <sup>41</sup> In contrast, as recently

Order at ¶ 195. In his attached Affidavit, Professor William P. Rogerson takes a longer term view. See Affidavit of Professor William P. Rogerson, attached ("Rogerson Affidavit").

Powell Separate Statement at 4 ("The most objective data on the record is a study by Media Metrix, recognized as the world leader in the measurement of Internet and digital media use."). The Media Metrix data relied upon herein only track usage of AOL IM, AIM, ICQ, MSN Messenger, and Yahoo! Messenger. If comparable data for other services were included, AOL's share, however calculated, presumably would be even lower than the numbers presented below.

AOL's share is based upon the unduplicated number of All Locations (i.e., Home, Work and University) Unique Visitors within the following three Media Metrix measurement categories:

<sup>(1)</sup> AOL Proprietary Instant Message (which measures IM usage within the AOL online service);

<sup>(2)</sup> AOL Instant Messenger ("AIM"); and (3) ICQ.

<sup>&</sup>quot;Unduplicated" data ensures that an individual who uses more than one of AOL's IM offerings (e.g., the IM feature of the AOL online service at home and AIM at work, both AIM and ICQ at home, AIM at home and ICQ at work, etc.) but constitutes only one entry in AOL's overall NPD, is in fact only counted once.

as June 1999, AOL's share of text-based IM was virtually 100%; that is because AOL's distinct products – AOL IM, AIM and ICQ – were the only significant IM offerings available at that time.<sup>42</sup> And, as explained further below, the long term trends indicate healthy competition among IM providers.

Indeed, Media Metrix data show that, in the last five months, AOL's rivals have seen continued growth in the number of Unique Visitors to their IM services: MSN Messenger's number of Unique Visitors increased from 17,640,000 in October 2002 to 19,410,000 in February 2003 (a 10 percent increase), while Yahoo! Messenger's Unique Visitors increased from 16,138,000 to 16,802,000 (a 4 percent increase). In comparison, AOL's unduplicated Unique Visitors decreased from 52,120,000 in October 2002 to 50,965,000 in February 2003 (a 2 percent decrease).

3. There Is No Legal Basis To Conclude That AOL Is "Dominant" In IM Today.

Beginning in 1980 with the *Dominant/Non-Dominant First Report and Order*, 43 "dominance" in communications markets has been directly equated with market power. Market power, according to the Commission, is the ability to profitably set prices above competitive levels or to effectively lower prices to forestall entry by new competitors or eliminate existing

The methodology employed by Media Metrix to measure IM usage has been refined since the Order was adopted, and is now specifically designed to eliminate "false positives" -- i.e., rather than counting as a Unique Visitor every user upon whose computer screen the IM client (or, in the case of the AOL service, the "Buddy List" and/or message windows) becomes the active window, it counts only those users who send or receive at least one instant message that month.

<sup>&</sup>lt;sup>42</sup> IM was invented by AOL in 1985 and first offered as a feature of the AOL online service in 1989. See ex parte letter from Peter D. Ross, Esq. to Magalie Roman Salas, September 29, 2000. AOL has been issued United States Patent 6,449,344, covering innovations developed by ICQ.

Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, First Report and Order, 85 F.C.C.2d 1, 21-22 ¶ 56-61 (1980) ("Dominant/Non-Dominant First Report and Order").

competitors.<sup>44</sup> The relevant indicia of market power (or the lack thereof) include the number and size of competing firms, the nature of barriers to entry, the availability of reasonably substitutable services, and the control of bottleneck facilities,<sup>45</sup> as well as elasticities of supply and demand.<sup>46</sup> A declining market share may also indicate the *absence* of market power.<sup>47</sup>

These "dominance" criteria were initially developed to determine which sectors of the telecommunications market were competitive and "non-dominant," and should therefore be deregulated.<sup>48</sup> The dominant firms at that time included AT&T and its local telephone companies, as they "control[led] access to over 80% of the nation's telephones" and thereby controlled a bottleneck facility essential to competitors.<sup>49</sup> In contrast, the firms that the Commission found to be non-dominant included "specialized common carriers" ("SCCs") such as MCI and Southern Pacific Communications Company (the forerunner to Sprint). SCCs were found to be non-dominant since they, unlike AT&T, "always face[d] a direct competitor that

<sup>&</sup>lt;sup>44</sup> Id. at ¶ 56. A firm that is not constrained by competition from a sufficient number of existing and potential competitors can profitably raise price above costs -- or prevent price from falling to costs -- by either directly restraining its own output or by restraining the output of its competitors. See also Rogerson Affidavit at p. 12.

<sup>&</sup>lt;sup>45</sup> *Id.* at ¶¶ 57-58.

Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, 11 FCC Rcd 3271, 3304 ¶ 57 (1995) ("AT&T Non-Dominance Order") (citing William N. Landes and Richard A. Posner, Market Power in Antitrust Cases, 94 Harv L. Rev. 937, 945-52 (1981)). See also Rogerson Affidavit at pp. 12-13.

Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, Fourth Report and Order, 95 F.C.C.2d 554 n.19 (1983).

<sup>&</sup>lt;sup>48</sup> See generally Dominant/Non-Dominant First Report and Order, supra note 43.

<sup>&</sup>lt;sup>49</sup> *Id.* at ¶ 62.

offer[ed] a readily substitutable service."<sup>50</sup> Any attempt by a non-dominant firm to exercise market power would quickly be "frustrated" by its competitors.<sup>51</sup>

In 1995, the Commission applied these criteria to AT&T's motion to be classified as non-dominant in the market for interexchange carrier ("IXC") services.<sup>52</sup> The Commission found that AT&T was not a dominant firm with a 58.6 percent share of the IXC market<sup>53</sup> where supply and demand were sufficiently elastic to constrain AT&T's ability to raise prices unilaterally.<sup>54</sup> The fact that AT&T's market share had steadily declined from 90 percent, and that it faced competition from at least two strong competitors, confirmed that it lacked market power.<sup>55</sup> Applying these precedents, it is clear that AOL's IM services are not "dominant."

First, Media Metrix share data show that AOL is not dominant in IM. In the AT&T proceeding, the Commission noted that in the ten-year period from 1984 to 1994, AT&T's market share in long distance telephone service had fallen from 90 percent to 58.6 percent. The Commission found that "the decline in AT&T's market share suggests that AT&T no longer possesses market power." Only two years after imposing the Condition, the Commission is faced with even more compelling facts with respect to IM. Since June 1999, when AOL served 100 percent of IM users, AOL has confronted two major new IM entrants, Yahoo! And Microsoft, as well as numerous smaller entrants. As a result, AOL has experienced a substantial

<sup>&</sup>lt;sup>50</sup> *Id*. at ¶¶ 79-81.

<sup>51 7.3</sup> 

See generally AT&T Non-Dominance Order, supra note 46. See also Rogerson Affidavit at pp. 11-12.

<sup>&</sup>lt;sup>53</sup> Id. at ¶ 40. For the last four months, AOL's share averaged 58.5% See also Rogerson Affidavit at p. 3.

<sup>54</sup> AT&T Non-Dominance Order at ¶¶ 58, 63.

<sup>&</sup>lt;sup>55</sup> *Id.* at ¶¶ 67-72.

<sup>&</sup>lt;sup>56</sup> *Id.* at ¶ 67.

decline in its IM share. Its share of unduplicated all location users has fallen from 100 percent to 58.5 percent in just three and one-half years.

These numbers are significant evidence of "changed circumstances" with key implications for purposes of the Commission's analysis of this Petition.<sup>57</sup> First, AOL's IM share has <u>fallen more rapidly</u> than did AT&T's long-distance share during the period preceding the Commission's determination that AT&T was non-dominant. Today, AOL's share in IM is approximately the same as AT&T's share in long distance when the Commission determined that AT&T was not dominant.

The Commission did not state a basis for concluding that AOL was "dominant" in IM more than two years ago. See Order at ¶ 129. In light of the AT&T Non-Dominance Order, however, it would be difficult to argue that the Commission believed AOL's share of IM was lower than AT&T's share when it was declared non-dominant (viz., 58.5%). AOL's declining share since then provides clear and convincing evidence that it is not dominant in IM today and that there is no likelihood of anti-competitive "tipping" in AOL's favor. See Rogerson Affidavit at pp. 10-12.

See AT&T Non-Dominance Order at ¶ 63. See also Rogerson Affidavit at pp. 11-12.

The standard economic model of market power postulates that market power is a function of a firm's (a) marginal cost and (b) the supply and demand elasticities that it faces. See, e.g., Frank P. Darr, Converging Media Technologies and Standing at the Federal Communications Commission, 7 Harv. J. Law & Tec. 1, at text accompanying n.123 (Fall 1993); see also Thomas G. Krattenmaker, Robert H. Lande, and Steven C. Salop, Monopoly Power and Market Power in Antitrust Law, 76 Geo. L.J. 241, 267 (December 1987) (discussing demand elasticity in terms of the Lerner Index). Elastic demand further constrains a firm's ability to profitably price above competitive levels.

instant messenger clients, essentially without cost.<sup>60</sup> Over time, consumers' propensity to choose alternative providers has been demonstrated by the growth of Microsoft and Yahoo! as IM providers and the new video AIHS offerings available from them. The ability of consumers today to defeat an attempted price increase by easily shifting to established, branded, powerful rivals – such as Microsoft and Yahoo! – is no longer a theoretical possibility, but a materially changed circumstance that further confirms the lack of dominance by AOL.

Third, high supply elasticity shows that AOL is not dominant in IM. In the AT&T non-dominance proceeding, the Commission found that "AT&T's competitors have enough readily available excess capacity to constrain AT&T's pricing behavior," meaning that "supply is sufficiently elastic to constrain AT&T's unilateral pricing decisions." After more than two years since imposition of the Condition, it is now clear that Microsoft and Yahoo! face no capacity constraint that would prevent them from rapidly expanding their NPDs in response to increased customer demand for their services (or reduced willingness to pay for AOL's). Nor is there any reason to believe that either of AOL's major competitors would be unable to increase their server capacity or other IM infrastructure to support such surges in demand. These conclusions are consistent with the continued growth in the number of new users of Yahoo!

Any provider deciding to charge a per use fee for using its IM service likely would rapidly lose a large number of customers and find demand to be highly price elastic. It is not necessary for all or most users to coordinate a switch to a less expensive IM network in order to deter AOL from even attempting to exercise market power. The downloading and storage involved in adopting a new IM service are virtually costless, and multiple IM services can be used simultaneously. And there is no reason that adoption of a new service must be carried out simultaneously by most or all customers on different buddy lists. As a result, that price increase would be unprofitable. Accord Powell Separate Statement at 4, n.4. See also Rogerson Affidavit at p. 12.

<sup>61</sup> AT&T Non-Dominance Order at ¶ 58.

<sup>62</sup> Id. This criterion comports with basic economic principles. If rivals cannot increase their capacities in response to a price increase by a leading firm, then that firm has some unilateral ability to exercise market power.

Messenger and MSN Messenger, observed facts that have become clear since the *Order* was adopted. According to Media Metrix data, from October 2002 to February 2003, MSN Messenger's number of Unique Visitors grew by almost two million and Yahoo! Messenger's Unique Visitors grew over the same period by more than half a million. There is no evidence that suggests that either firm's resources were threatened by these increases.

Fourth, there is no evidence that AOL Time Warner's efficiency, financial strength or size would today or in the future convey upon it the ability to increase prices or reduce output in IM. In the AT&T proceedings, the Commission considered AT&T's cost structure, size, and financial resources to determine whether or not these factors gave AT&T the ability to price anticompetitively. The Commission did not find that AT&T's size or financial resources would allow it unilaterally to increase prices above competitive levels. There is no reason to believe that AOL Time Warner is in any different situation or that it is financially stronger than its largest IM rival, Microsoft. Nor does Yahoo!, AOL's next largest rival, lack the resources necessary to compete effectively.

In summary, although the AT&T Non-Dominance proceeding and the current proceeding occurred at different times and involve different services, the criteria for a finding of dominance used by the Commission in its analysis of AT&T may be directly applied to AOL Time Warner today. Those criteria indicate that – due to a series of material changes – there is no legal basis today to conclude that AOL is dominant in IM, or that it threatens to become so in the future.

4. There Is No Economic Basis To Conclude That AOL Is "Dominant" In IM Today Or That IM Is Likely To "Tip" To AOL In The Future.

As set forth more fully in the attached affidavit of Professor William P. Rogerson, there is no economic basis to conclude that AOL is dominant in IM or that network effects have led or will lead IM to "tip" in AOL's favor. To the contrary, there is now "clear and convincing

evidence that there are three strong and stable competitors" in IM and no "plausible reason to conclude either that AOL is dominant or that the market has 'tipped' or is in danger of 'tipping' to AOL." Professor Rogerson bases his conclusion on the fact that AOL's share of IM has "continued to decline while the shares of its two competitors, Microsoft and Yahoo!, have continued to grow." As Professor Rogerson points out, the evidence shows that "competition is strong and vibrant" in IM. 65

Professor Rogerson makes two compelling arguments to support his conclusion. First, he notes that AOL's share of IM has been decreasing ever since Microsoft and Yahoo! began to compete with AOL. Professor Rogerson examines AOL's chief competitors and finds there is no reason to conclude they are weak or unstable or that their shares of IM are likely to decline. For these reasons, he concludes there is strong evidence that "the market has not 'tipped' to AOL and that it is in no danger of 'tipping' to AOL" in the future.<sup>66</sup>

Second, Professor Rogerson finds clear evidence of competition in IM. Specifically, he notes that competition has kept prices for these offerings at zero.<sup>67</sup> And he points out that AOL does not enjoy any special advantages in IM due to the size of its NPD. Indeed, Microsoft and Yahoo! each have introduced streaming video AIHS services ahead of AOL. This provides independent evidence of these competitors' viability.<sup>68</sup> There is furthermore no reason to believe

<sup>63</sup> Rogerson Affidavit at p. 3.

<sup>64</sup> Id.

<sup>65</sup> Id.

<sup>&</sup>lt;sup>66</sup> *Id*.

According to Professor Rogerson, a firm is capable of exercising market power if it can "increase its profits by raising price above the competitive price." *Id.* at p. 12. Professor Rogerson does not believe AOL can do this because, "along with its two competitors, [it] gives away its IM services to consumers for free." *Id.* 

<sup>68</sup> *Id.* at pp. 13-14.

that either of these competitors is capacity-constrained. Microsoft is pursuing a particularly vigorous strategy, bundling its IM offering with its monopoly operating system.<sup>69</sup> For all of these reasons, there is no economic basis to conclude that AOL is dominant in IM today or that IM is likely to "tip" to AOL in the future.

### C. AOL Does Not Control A Names And Presence Directory Whose "Network Effects" Threaten Competition.

The *Order* found that AOL was the largest IM provider and opined that NPDs exhibit strong network effects. This led the Majority to make two predictions. First, the Majority predicted that network effects would enable AOL to enjoy an enormous advantage over actual or potential rival AIHS providers absent interoperability. In other words, a "typical new user" would choose AOL – the service with the largest NPD – simply because it had the largest NPD and without regard to other indicia of product quality. Second, the Majority predicted that AOL's then-"dominant" and likely growing share of text-based IM services would confer on AOL a "first mover advantage" in streaming video AIHS. Thus – simply because AOL had generated the largest NPD with its text-based IM services – AOL would be the unrivaled leader in deciding which AIHS to roll out and when.

As set forth below, changed circumstances since 2000 shine an entirely new light on these predictions. Even absent interoperability, neither text-based IM nor AIHS has "tipped." Indeed, while rapidly growing their competitive offerings, Microsoft and Yahoo! have not interoperated their systems, a collaboration clearly indicated if tipping to AOL were likely.

<sup>&</sup>lt;sup>69</sup> *Id.* at p. 13.

<sup>&</sup>lt;sup>70</sup> Order at ¶ 175.

<sup>&</sup>lt;sup>71</sup> *Id.* at ¶ 157.

<sup>&</sup>lt;sup>72</sup> See id. at ¶ 158.

<sup>&</sup>lt;sup>73</sup> Id. at ¶ 174.

Thus, it is plain that AOL does not have an NPD whose "network effects" confer on AOL a "first mover advantage."

#### 1. AOL's Rivals Have Significant And Growing NPDs.

Whatever concerns existed more than two years ago about AOL's "uniquely large" NPD, there is no basis for continued concern today. Microsoft and Yahoo! have each grown their IM user base substantially.

Microsoft's growth has not been surprising. In addition to marketing its stand-alone MSN Messenger service, Microsoft has bundled both Windows Messenger (its new and backward-compatible consumer IM service) and Microsoft .NET Passport into Windows XP. In this manner, Microsoft has established its own IM and presence detection capabilities as the *de facto* standards for PC users. Published reports indicate that Windows Messenger, the streaming video AIHS-enabled IM client bundled into Windows XP, "loads and runs every time Windows is booted." A Microsoft .NET Passport ("Passport") account, meanwhile, not only doubles as a user name for MSN Messenger, Windows Messenger, 75 and Microsoft's Hotmail email service, 76 it is also "an online service that makes it possible for you to use your e-mail address and a single password to sign in to any .NET participating Web site or service." As a result, Passport's already substantial user base, which Microsoft stated in March 2002 included over 200 million

ProComp, "Microsoft's Expanding Monopolies: Casting a Wider .NET," May 15, 2001, available at <a href="http://www.procompetition.org">http://www.procompetition.org</a>.

<sup>&</sup>lt;sup>75</sup> See <a href="http://www.microsoft.com/netservices/passport/overview.asp">http://www.microsoft.com/netservices/passport/overview.asp</a>.

<sup>&</sup>lt;sup>76</sup> See <a href="http://www.passport.net/Directory/Default.asp">http://www.passport.net/Directory/Default.asp</a>.

<sup>&</sup>quot;Microsoft® .NET Passport: .NET Branding," available at <a href="http://www.passport.com/Consumer/">http://www.passport.com/Consumer/</a> DotNETBranding.asp?lc=1033>.

users,<sup>78</sup> and which now includes over 270 million users,<sup>79</sup> can be expected to enjoy continued growth.<sup>80</sup>

Indeed, through new PC purchases (Windows XP is the default operating system on nearly all new Windows-based PCs) and upgrades, the majority of computer users soon can be expected to be Windows XP users. This will provide clear incentives – to Microsoft, obviously, but more importantly, to third-party developers as well – to incorporate Microsoft's IM and presence detection capabilities into future NPD-based services. Such an advantage will make it difficult for rival providers of such services to compete. The bundling of Windows Messenger and Passport into Windows XP clearly demonstrates that Microsoft is capable of competing head-to-head with AOL in this evolving arena.

In addition, Yahoo! has designed its network of Internet properties so that all of its 86 million registered users<sup>83</sup> are potential members of its NPD. As Yahoo! notes, "[o]nce you

<sup>&</sup>quot;.NET Passport Overview," available at <a href="http://www.Microsoft.com/myservices/passport/overview.asp">http://www.Microsoft.com/myservices/passport/overview.asp</a>.

See iRevolution Joins Forces With RSA Security to Provide Secure Online Authorizations to Microsoft .net Passport, M2 Presswire Oct. 11, 2002.

In fact, Microsoft Chairman Bill Gates has stated that "it's our goal to have virtually everybody who uses the Internet to have one of these Passport connections." Dominic Gates, "Microsoft Could Hold Passport to Net," July 3, 2001, available at <a href="http://www.thestandard.com/article/0,1902,27685,00.html">http://www.thestandard.com/article/0,1902,27685,00.html</a>.

Indeed, in its first 12 months of sales alone, consumers purchased over 67 million copies of Windows XP as the original operating system on new PCs. See Microsoft Announces Record First Quarter Revenue, PR Newswire October 17, 2002. It can be safely assumed that this number has grown since October 2002, the last period for which data are available, and that consumer purchases of Windows XP upgrade software for existing PCs further increase the installed base of Windows XP.

Indeed, for these reasons, some experts predict that Microsoft's IM share will eclipse AOL's within the next few years. See Kristi Heim, "Microsoft Makes a Push Into Instant Messaging Market," San Jose Mercury News, March 7, 2003 (citing META Group study).

See "Yahoo! Facts & Figures," available at <a href="http://solutions.yahoo.com/advertiser">http://solutions.yahoo.com/advertiser</a> center/research/figuresO4.pdf>.

establish a Yahoo! ID you will have access to the entire Yahoo! network. You need only do this once and your ID will work for every service in Yahoo! [including Yahoo! Messenger]."<sup>84</sup> Clearly, then, the number of Yahoo!'s unique users should be more than sufficient to support its continued rollout of AIHS.

### 2. Product Development, Not Network Effects, Will Drive Streaming Video AIHS Success.

As noted above, the Majority's merger-specific theory of harm was founded upon the belief that AOL's "uniquely large" NPD would generate "network effects" for its streaming video AIHS, such that "typical new users" would usually choose only AOL's AIHS offerings.

Today, there is no reason to believe that network effects invariably drive the "typical new user" to choose only AOL's services.

Indeed, it is now plain that many new users choose other competing services, and both Yahoo! and Microsoft possess assets that ensure their continued ability to compete in this space. More importantly, each has demonstrated that its product and distribution channels, not the size of its underlying NPD, drives innovation and adoption.

If the size of an NPD itself was so important, Microsoft and Yahoo! today could rapidly increase their scope by establishing a combined NPD. More importantly, the fact that these already powerful competitors have the ability to do so provides substantial competitive discipline on AOL and eliminates the need for continued imposition of the Condition.

### 3. AOL Cannot Obtain A "First-Mover" Advantage In Streaming Video AIHS.

The Commission predicted that as a result of AOL's then "dominant" position in textbased IM, its NPD would be an essential input for competitors to develop future high-speed

<sup>&</sup>quot;What do I need to use Yahoo! Messenger?," available at <a href="http://help.yahoo.com/help/us/mesg/mesg-02.html">http://help.yahoo.com/help/us/mesg/mesg-02.html</a>.

Internet-based services that rely on real-time delivery and interaction. As such, the Commission found that, absent interoperability, AOL would have an anticompetitive "first-mover" advantage in developing and rolling out streaming video AIHS. Experience now conclusively demonstrates that the possibility of AOL obtaining a "first-mover" advantage (anticompetitive or otherwise) has been eliminated.

Today, in fact, it is Microsoft and Yahoo! that have become the first movers in offering streaming video AIHS. On June 26, 2001, Yahoo! released version 5.0 of Yahoo! Messenger, which it described as "the first instant messaging service to integrate Webcam functionality and make it immediately available to consumers and businesses." With Yahoo! Messenger 5.0, "people can easily set-up their Webcams to send live images while instant messaging with anyone on their Yahoo! Messenger Friends List."

And on October 25, 2001, Microsoft released Windows XP, the most significant upgrade to its monopoly operating system in seven years. Windows Messenger, which "provides live, real-time videoconferencing on your computer," is bundled into Windows XP. Microsoft significantly broadened the scale of its video IM service in March 2003 by adding webcam functionality, formerly available only in its bundled Windows XP/Windows Messenger product,

<sup>85</sup> Order at ¶ 129.

<sup>86</sup> *Id.* at ¶ 174.

<sup>&</sup>quot;Yahoo! Brings Friends and Family Face-to-Face as First Instant Messenging Service to Integrate Webcam Functionality," available at <a href="http://docs.yahoo.com/docs/pr/release790.html">http://docs.yahoo.com/docs/pr/release790.html</a>.

Id. See also "What is Super Webcam?", available at <a href="http://messenger.yahoo.com/messenger/superwebcam">http://messenger.yahoo.com/messenger/superwebcam</a> (describing how, with Super Webcam, "[f]rames refresh up to 20 frames a second.").

<sup>&</sup>lt;sup>89</sup> "Using Windows Messenger 4.0: Videoconferencing," available at <a href="http://www.microsoft.com/windowsxp/pro/using/howto/communicate/videoconf.asp">http://www.microsoft.com/windowsxp/pro/using/howto/communicate/videoconf.asp</a>.

to its free MSN Messenger service.<sup>90</sup> Thus, to the extent that the Commission sought to ensure that AOL would have no anticompetitive first-mover advantage in streaming video AIHS, that objective has already been accomplished.<sup>91</sup>

### 4. AOL's NPD Is Not A "Barrier" To The Development Of New Ancillary NPD-Based Services.

Another indication of the changed circumstances since the *Order* was issued relates to the Majority's assumptions about wireless IM. The *Order* pointed to then-emerging wireless IM services as an area where AOL's IM "dominance" likely would generate AIHS dominance. As evidence, the Majority cited to agreements between AOL and various wireless companies in which those companies agreed to make AOL's IM service available to their customers. The Commission assumed that wireless carriers would choose to offer AOL's IM services exclusively because of AOL's alleged dominance and the lesser capacity of hand-held devices.

<sup>&</sup>lt;sup>90</sup> See Jim Hu, "Microsoft Flicks On Webcam," Cnet News.com March 11, 2003, available at <a href="http://news.com.com/2102-1025-992080.html">http://news.com.com/2102-1025-992080.html</a>.

Microsoft is innovating in a variety of ways. For example, Microsoft "hopes to deliver corporate-class communication, such as instant messaging" through Greenwich, "a real-time communications and collaboration operating system around which third-party developers and big businesses can create more sophisticated messaging, videoconferencing and Internet-based communications applications." See Joe Wilcox, "Microsoft's New Plans for e-Business, IM," Oct. 9, 2002, available at <a href="http://news.com.com/2100-1001-961497.html">http://news.com.com/2100-1001-961497.html</a>.

<sup>&</sup>quot;Microsoft [also] plans to begin testing a radically new instant messaging and communications product aimed at teenagers and young adults who grew up using the Internet. The new software, called Threedegrees, creates a peer-to-peer social group in which people can chat, share photos, listen to music and meet friends. Concurrently with the test, or beta, program, Microsoft also plans to release the Windows Peer-to-Peer Update for Windows XP." Joe Wilcox, "Microsoft Aims to Tap Net Generation," Feb. 17, 2003, available at <a href="http://news.com.com/2102-1023-984816.html">http://news.com.com/2102-1023-984816.html</a>.

<sup>92</sup> See Order at ¶ 161.

<sup>93</sup> *Id.* at ¶ 161.

<sup>94</sup> *Id.* at ¶ 164.

In fact, however, Microsoft and Yahoo! have each entered into agreements with wireless providers to distribute their IM services. AT&T Wireless today has deals with both AIM and Yahoo! Messenger. Moreover, wireless providers are not choosing AOL's software exclusively, thereby making "use of others impossible." Indeed, the opposite is true. Last year, Verizon Wireless began offering AIM together with MSN Messenger to its wireless subscribers.

The growing presence of competing IM services over wireless networks further undermines notions that AOL is "dominant" and proves that "network effects" do not drive innovation and adoption. There is no reason to doubt that firms like AT&T Wireless and Verizon Wireless seek to maximize their profits. Maximizing profits depends in part on making the most attractive set of features and service attributes available to customers. Offering third-party applications such as IM has proven to be one way for these carriers to boost traffic on their networks. The fact that MSN Messenger and Yahoo! Messenger are now distributed broadly over these wireless networks shows that they are considered popular applications that add value. Accordingly, the evidence from the wireless marketplace shows that AOL's NPD has not proven to be a "barrier" to the development of new advanced IM service offerings.

### III. THE CONDITION IS NO LONGER "NECESSARY IN THE PUBLIC INTEREST" AND MUST BE REMOVED.

The Condition was based on predictions that instant messaging would head in a very different direction from where it has actually gone. In particular, the Majority believed that

<sup>95</sup> See http://www.attws.com/messaging/instant.

<sup>&</sup>lt;sup>96</sup> Order at ¶ 164.

In addition, efforts are under way by carriers and three of the world's largest mobile telephone manufacturers (Ericsson, Motorola, and Nokia) through the "Wireless Village" initiative to expand the market for mobile NPD-based IM services. See <a href="www.openmobilealliance.org/wirelessvillage">www.openmobilealliance.org/wirelessvillage</a>.

competition – both at that time and as this nascent service evolved – would be insufficient to discipline what it concluded was the dominant provider of IM. Consequently, the Majority concluded that the Condition was necessary to protect competition and innovation in new video streaming NPD-based offerings. But circumstances have changed. In fact, over the past two years both Microsoft and Yahoo! have grown and continue to grow relative to AOL, even without (1) access to AOL's NPD or (2) combining their own services to establish an NPD that would rival that of AOL. Indeed, they have innovated and become "first movers" for streaming video AIHS. As a result, predictions that the merger would allow AOL to dominate a single IM "platform" upon which all others depend have proven to be incorrect.

Whatever is required to succeed in delivering IM services, it is not access to AOL's NPD nor is it anything that is unique to the merger of AOL and Time Warner. In light of these developments, it would be arbitrary and capricious not to remove a merger condition that is no longer "necessary in the public interest." 100

In light of the foregoing, the only effect of the Condition has been to hinder AOL's offering of streaming video AIHS to Internet users.<sup>101</sup> While this may have provided a head start to AOL's competitors, it surely is not consistent with the Commission's public interest

<sup>&</sup>lt;sup>98</sup> Order at ¶ 188.

<sup>&</sup>lt;sup>99</sup> Id.

Fox Television Stations, 280 F.3d at 1043-44 (there must be an adequate basis for concluding that regulation will further the Commission's objectives, otherwise continued regulation is not "necessary in the public interest") (emphasis supplied). Whether the Condition must be "indispensable" or merely "useful" to be preserved, it cannot be justified under either approach. See Fox Television Stations II, 293 F.3d at 540; cf 2002 Biennial Regulatory Review, GC Docket No. 02-390, FCC 02-342, ¶ 15 (2003) (discussing different interpretations).

Foreclosing consumer access to these offerings does not promote any public interest goals. See GTE/Bell Atlantic, 16 FCC Rcd 16915 at ¶ 8.

mandate.<sup>102</sup> Today, the Condition serves no pro-competitive purpose and is instead hindering full-blown competition. Indeed, as Professor Rogerson explains, the condition is more likely to impose social costs while generating no social benefits.<sup>103</sup> For these reasons, it must be removed.

In the alternative, the Commission should grant relief because it lacks the authority to keep it in place. "It is well established that an agency's power to regulate private entities must be grounded in a statutory grant of authority from Congress." The Commission imposed the Condition as an exercise of its authority under Section 310(d) of the Communications Act 105

FCC Rcd 22280, 22288 ¶ 16(1997) ("[o]ur statutory duty is to protect efficient competition, not competitors."); SBC Communications Inc., et al. v. Federal Communications Commission, 56 F.3d 1484, 1491 (D.C. Cir. 1995) ("[t]he Commission is not at liberty... to subordinate the public interest to the interest of 'equalizing competition among competitors."); Primetime Access Rule, Report and Order, 11 FCC Rcd 546, 555 ¶ 18 (1995) (what matters is the extent to which regulation will serve the public interest and "maximize consumer welfare," not "merely protec[t] individual competitors"); Amendment of Parts 73 and 76 of the Commission's Rules Relating to Program Exclusivity in the Cable and Broadcast Industries, Memorandum Opinion and Order, 4 FCC Rcd 2711, 2723 ¶ 66 (1989) (the Commission's goal is "of course, to see that the public interest is served, not to maintain an efficient distribution scheme that favors [certain competitors]") (emphasis added); Evaluation of the Syndication and Financial Interest Rules, Memorandum Opinion and Order, 73 RR 2d 1452, 1454 ¶ 39 n.52 (1993) (the Commission "seek[s] to insure that the market as a whole functions competitively" and not to redistribute profits).

See also Evaluation of the Syndication and Financial Interest Rules, Second Report and Order, 8 FCC Rcd 3282, 3302 ¶ 42 (1993) ("[a]ltering the distribution of profits among private parties is not, and never has been, a proper or desirable function of the Commission"); Western Union Telegraph Co. v. Federal Communications Commission et al., 665 F.2d 1112, 1122 (D.C. Cir. 1981) (same); Hawaiian Telephone Co. v. Federal Communications Commission, 498 F.2d 771, 775-776 (D.C. Cir. 1974) (concluding that the Commission should protect the public interest, not individual competitors).

<sup>103</sup> Rogerson Affidavit at pp. 14-18.

Barnhart v. Peabody Coal Co., 123 S. Ct. 748, 763 (2003) (Scalia, J., dissenting) (internal quotations omitted); see also ExxonMobile Gas Marketing Co. v. FERC, 297 F.3d 1071, 1088 (D.C. Cir. 2002) ("it is statutory authorization alone that gives [the agency] the authority to regulate . . . .") (internal quotations omitted) (emphasis in original).

<sup>105 47</sup> U.S.C. § 310(d).

primarily because various Time Warner entities possessed CARS (cable relay service)
microwave radio licenses used to transmit signals to or from cable system headends. 106
However, the Condition exceeds the Commission's authority under Section 310(d). Specifically,
Section 310(d) provides:

"No ... station license ... shall be transferred ... to any person except upon ... [a] finding by the Commission that the public interest, convenience, and necessity will be served thereby. Any such application shall be disposed of as if the proposed transferee ... were making application ... for the ... license in question...."

Under the plain text of Section 310(d), the word "thereby" refers back to whether the "license . . . shall be transferred." This makes clear that the Commission may base its decision on the public-interest consequences of only the proposed license transfer, not of the broader corporate transaction that may have occasioned it. The second sentence further requires the Commission to treat the application "as if the proposed transferee or assignee were making application under section 308 for the permit or license in question," which makes clear that the only relevant factors are those that would be considered in connection with an original license application by the transferee. Because the Commission had no power to impose the Condition based on this statutory criteria, upon request for revocation it has no power to leave it in place.

Whether this argument could have been made when the Condition was first imposed is not relevant. The Commission would act arbitrarily or otherwise contrary to law if it refused to consider whether a prior action having continuing effects was issued absent statutory authority. Moreover, if the Commission declines to repeal the Condition, it has in effect "re-

<sup>&</sup>lt;sup>106</sup> Time Warner and America Online, Inc. each held a small number of additional licenses. See Order at Appendix C. None of these licenses, however, are used to provide IM services.

See American Scholastic TV Programming Found. v. FCC, 46 F.3d 1173, 1178 n.2 (D.C. Cir. 1995) (party with standing may challenge regulations where agency exceeded authority "regardless of statutory time limits on challenges") (internal quotations omitted); Public Citizen

exercised" merger-review authority. As the D.C. Circuit has recognized, statutory time limits do not foreclose subsequent examination of a rule "where properly brought before [a] court for review of further Commission action applying it." In sum, a refusal to grant the petition would constitute "further Commission action applying" the Condition – and would be subject to judicial review as though entered for the first time. 109

#### IV. CONCLUSION

Recognizing that its predictive judgments regarding IM could turn out to be unfounded in this dynamic and rapidly evolving environment, the Commission deliberately provided a mechanism for relieving AOL Time Warner of the restrictions imposed on its development and deployment of certain innovative IM offerings. In fact, the evolution of IM has not occurred as the Commission predicted. More than two years after imposing the restrictions, AOL's IM offerings are not "dominant." Competitors are continuing to grow rapidly and to innovate on their own. Experience shows that AOL does not control any input essential to competition and innovation in NPD-based services. The only purpose served by continuing to restrict AOL from offering video streaming AIHS is to reduce competition, thereby reducing consumer welfare. For these reasons, the IM condition is not "necessary in the public interest." With more than two years of experience against which to measure the predictions made in this case, the conclusions made in the *Order* have clearly outlived any value they might have served. Accordingly, AOL

v. National Regulatory Comm'n, 901 F.2d 147, 152 (D.C. Cir. 1990) (claim that agency violated statute "may be raised outside a statutory limitations period"); National Labor Relations Bd. Union v. Federal Labor Relations Auth., 834 F.2d 191, 196-97 (D.C. Cir. 1987) (same).

<sup>&</sup>lt;sup>108</sup> Geller v. FCC, 610 F.2d 973, 978 (D.C. Cir. 1979) (internal quotations omitted) (emphasis supplied). See also supra note 107.

See American Tel. & Tel. Co. v. FCC, 978 F.2d 727, 734 (D.C. Cir. 1992) ("It is well established that a rule may be reviewed when it is applied in an adjudication . . .").

Time Warner respectfully requests that it be relieved of the obligations set forth in paragraphs 325-328 of the *Order*.

Respectfully,

Steven N. Teplitz

Vice President and Associate General Counsel

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800 Connecticut Avenue, NW

Suite 200

Washington, DC 20006

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Dated: April 2, 2003

# Before the FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

In the Matter of:	)	
	)	
Applications for Consent to the Transfer	)	
of Control of Licenses and Section 214	)	CS Docket No. 00-30
Authorizations by Time Warner Inc. and	)	
America Online, Inc. Transferors, to	)	
AOL Time Warner Inc., Transferee	)	

#### AFFIDAVIT OF PROFESSOR WILLIAM P. ROGERSON

My name is William P. Rogerson. I am a professor of economics at Northwestern

University. In 1998-99 I served as Chief Economist at the Federal Communications Commission

("Commission"). I have published numerous academic articles on industrial organization,
regulation, the economics of contracts, and telecommunications. I have served as chairman of
the Department of Economics at Northwestern and am currently Co-Director of the Center for
the Study of Industrial Organization and Director of the Program for Mathematical Methods in
the Social Sciences at Northwestern. A copy of my curriculum vitae is attached at Exhibit 1. I
submit this affidavit in support of the Petition of AOL Time Warner Inc. to remove a condition
imposed upon it by the Commission in this proceeding.<sup>1</sup>

Memorandum Opinion and Order In the Matter of Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner, Inc., Transferee, Memorandum Opinion and Order, 16 FCC Rcd 2400 (2001) (hereinafter "Order").

#### INTRODUCTION

AOL, Microsoft, and Yahoo! are the three major providers of text-based instant messaging (IM) services.<sup>2</sup> IM services utilize a names and presence database (NPD) to allow users of each service to detect whether other users of that service are on-line and to send short text based messages back and forth to one another in real time. The *Order* predicted that the next generation of NPD-based services would involve richer forms of communication including streaming video and labeled such offerings "advanced IM-based high-speed services," or AIHS. The condition at issue prevents AOL from offering streaming video AIHS services over AOL Time Warner broadband facilities (the "Condition").<sup>3</sup> The *Order* also provides, however, that the Commission will remove the Condition if AOL Time Warner demonstrates "by clear and convincing evidence that circumstances have changed such that the public interest will no longer be served by the Condition."<sup>4</sup>

The Commission's rationale for imposing the Condition was based upon its concern that the presence of strong network effects in the market for instant messaging,<sup>5</sup> together with its finding that AOL then held the vast majority of the text-based IM market (and was dominant), might cause the market to "tip" to AOL, resulting in AOL becoming a monopoly provider of instant messaging. The Commission then expressed concern that AOL's dominance in text-based IM could then afford the merged company an anti-competitive first mover advantage in

While other providers of IM services exist, the data I analyze from comScore Media Metrix only tracks usage of these three firms. If comparable data from other services were available, AOL's share, however calculated, presumably would be lower than the numbers presented below.

<sup>3</sup> See Order at ¶¶ 191-95; 325.

See id. at ¶ 18. See also id. at ¶¶ 191-95.

In explaining why it imposed Condition as a requirement for its approval of the AOL Time Warner merger, the Commission first concluded that NPD-based services constituted a distinct market. *Id.* at ¶ 152. Whether NPD-based services constitute a relevant antitrust market is a question that need not be addressed in the context of determining whether the restriction on AOL Time Warner should be lifted. For purposes of this analysis, I assume arguendo these services may be considered a relevant market.

streaming video AIHS. Even at the time of the Commission's decision, AOL faced two strong competitors whose market shares had been consistently growing since they began offering IM services. Nonetheless, perhaps because of the newness of the market and the inherent uncertainties associated with its decision, the Commission concluded that the danger of "tipping" was still serious enough that a condition designed to guard against possible harm to streaming video AIHS competition was warranted.

Since the Commission adopted its *Order*, more than two years have passed in which we have been able to watch the market for IM services develop and mature. Based on my analysis of events that have unfolded in this period, I conclude that there is now clear and convincing evidence that there are three strong and stable competitors in the market for instant messaging. As a result, there is no longer any plausible reason to conclude either that AOL is dominant in text-based IM services or that this market has "tipped" or is in danger of "tipping" to AOL.

My conclusion follows from the fact that AOL's share of IM users has continued to decline while the shares of its two competitors, Microsoft and Yahoo!, have continued to grow. Based on the four most recent months for which data are available, AOL has an average share of 58.5 percent of IM users, Microsoft has an average share of 22.2 percent of IM users and Yahoo! has an average share of 19.3 percent of IM users. Furthermore, a variety of other developments, such as the fact that Microsoft and Yahoo! have already launched streaming video AIHS services independent of AOL, also support the conclusion that competition is strong and vibrant in this market.

Although the market share data do suggest that AOL is still a very strong competitor in this market, the Commission did not impose the Condition because AOL was a strong firm facing two strong and stable competitors. The Commission imposed the Condition because it

believed there was a serious danger that the presence of strong network effects would nip emerging competition in the bud and make it impossible for any other firms to establish strong and stable market shares and remain as effective competitors. The Commission succinctly summed up its concerns as follows:

The largest provider's refusal to interoperate will lead to users switching to it from the smaller providers, which will further swell the dominant provider's NPD and shrink the smaller ones'.

If the concerns expressed by the Commission had turned out to be true, we would have expected the number of customers served by Microsoft and Yahoo! to cease growing and in fact begin to contract some time over the two year period since the *Order* was adopted. The evidence flatly contradicts this prediction. The number of customers served by both Microsoft and Yahoo! has continued to grow strongly over the entire period since the *Order* was adopted. In fact, although AOL has also continued to grow over this period, both Microsoft and Yahoo have consistently grown faster than AOL so that their market shares have risen and AOL's has fallen.

A substantial historical record now exists for us to assess the strength and direction of growth in competition in this market, and the evidence shows that competition is strong and growing stronger. Therefore, in my judgment, there is no longer any need for a condition designed to prevent the theoretical possibility that the market might tip to AOL. Moreover, where regulations such as the Condition no longer serve an evident pro-competitive purpose, they likely impose costs that are passed on to consumers in the form of reduced choice or decreased innovation in the market. For all of these reasons, I conclude that the Condition should be removed.

<sup>6</sup> *Id.* at ¶ 155.

My analysis is organized as follows. Parts I and II present evidence to show that strong levels of competition exist in the IM market. I consider market share data in Part I and other evidence in Part II. Taken together, these facts establish that there is no danger of the market "tipping" to AOL, and that no condition is therefore needed to guard against this. In Part III, I explain why the Condition is likely to generate social costs even though it has no social benefits. In particular, I explain why imposing compatibility conditions on competitive network industries can be costly and create inefficiencies and distortions. Finally, I draw a brief conclusion in Part IV.

# I. THE EVOLUTION OF MARKET SHARES

As set forth below, the data show that Microsoft and Yahoo! both now have substantial shares of the IM market. Furthermore, their shares have been consistently increasing while AOL's has been consistently decreasing. Accordingly, the data show that there are three strong and stable competitors in the market for instant messaging. In particular, there is no longer any plausible reason to conclude either that AOL is dominant or that the market is in danger of "tipping" to AOL. I explain the data and my conclusions below.

#### A. What the Data Say

The data I use to conduct my analysis of market shares are compiled by comScore Media Metrix ("Media Metrix"), the leading Internet audience measurement service in North America.

Based on a sample of households, the data report the number of users of each IM service on a monthly basis for the 36 month period from March 2000 to February 2003. Beginning in October 2002, Media Metrix made some changes in the way it defined, categorized, and

measured IM usage that were designed to provide more accurate measures of IM usage.<sup>7</sup>

Because of this change in definitions, I cannot construct a single consistent time series for the entire 36 month period. Rather, I have one time series for the most recent five months, October 2002 to February 2003, using the new definitions, and another time series for the previous 31 months, March 2000 to September 2002, using the old definitions. I will use the market share data from the most recent five months to determine the current level of market shares and to determine if there have been any short run trends in market shares over these five months. In order to determine the nature of longer run trends in market shares, I will look for trends in the previous 31 months of data.<sup>8</sup>

Table 1 presents the number of users and market share for each service by month over the most recent five month period from October 2002 to February 2003.9 The market share of a firm

Among these changes were the following. First, Media Metrix introduced a new definition of a Unique Visitor (i.e., a user) for purposes of reporting this data beginning with October 2002. Prior to October 2002, a person was defined to use an IM service during a given month if any window associated with the IM software client became active (blue barred) on that person s computer screen. As a result, a person did not need to actually send or receive a single IM message during a month to be counted as an IM user in that month. Beginning in October 2002, however, a person is defined to be a user only if the person actually sends or receives at least one IM message during that month. This change would tend to decrease the number of reported users. Second, Media Metrix expanded its estimate of the total number of users and began measuring users at universities whose use was formerly not measured. This change would increase the number of total reported users.

Beginning with October 2002, Media Metrix introduced a number of significant changes in the methodologies and definitions it used to measure IM usage which were designed to provide more accurate estimates. It appears that the change in methodologies and definitions itself had an effect on calculated market shares. (This would occur if the changes in definitions and methodologies affected different firms differently.) If we attribute the change in market shares from September 2002 (using the old methodologies and definitions) to October 2002 (using the new methodologies and definitions) to the change in methodologies and definitions, it appears that the change caused AOL's market share to increase and its competitors' market shares to decrease. Since Media Metrix believes that its current methodologies and definitions provide the most accurate estimates, and I have no independent basis for questioning this, I will accept the market shares calculated using the current definitions as providing the best estimate of the current level of market shares. I will only use the historic data to investigate the trend in market shares. Since most of the reported data is for months prior to October 2002 and since market shares prior to October 2002 use the same definitions and methodologies, I can determined the nature of long term trends in market shares by examining the nature of trends in market shares for the period prior to October 2002. See supra n.7 and infra n.11 for descriptions of some of the changes between the methodologies and definitions.

AOL offers three different IM services: AOL IM (for members of AOL), AIM (a free IM offering, separate from the AOL ISP, that allows non-AOL subscribers to communicate with AOL subscribers and other AIM users) and ICQ (also a free offering). In order to avoid duplicative counting, the Media Metrix data I present counts the

is calculated by dividing the firm's number of users by the sum of all three firms' users in that month.

Table 1: Unique Users by Month for Instant Messaging Services: Oct 02-Feb 03

	000's of u	ısers		Percent of Total Users			
Date	AOL	MSFT	Yahoo	Total	AOL	MSFT	Yahoo
Oct-02	52120	17640	16138	85898	60.7	20.5	18.8
Nov-02	52569	19449	16373	88391	59.5	22	18.5
Dec-02	52639	19620	17735	89994	58.5	21.8	19.7
Jan-03	51794	20350	17723	89867	57.6	22.6	19.7
Feb-03	50965	19410	16802	87177	58.5	22.3	19.3

From this table it is clear that the market share of AOL has slightly declined over this five month period. Similarly, the market shares of Microsoft and Yahoo! have slightly increased over the same period. Based on the average value of the four most recent months of data (November 2002 to February 2003), the market shares of the firms are: AOL (58.5%), Microsoft (22.2%), and Yahoo! (19.3%).<sup>10</sup>

In order to determine the nature of longer term trends in market shares, I will now turn to the market share data for March 2000 through September 2002, which are presented in Table 2.11

use of any combination of AOL, AlM, or ICQ by the same user in a month as a single use of AOL's NPD. This data, which eliminates duplications across AOL services, is specially prepared for AOL by Media Metrix.

In petitioning to remove the Condition, the Commission required AOL to demonstrate that it has not been dominant "for at least four (4) consecutive months." *Order* at ¶ 195.

For the most current period of October 2002-February 2003, unduplicated data on total IM use (i.e., peoples' use of their personal IM services at home, work, and/or at universities) were available and this is what is reported in Table 1. Only unduplicated data for home use are available all the way back to March of 2000, so Table 2 reports only on home use for the period March 2000-September 2002. This difference would tend to produce slightly lower reported user numbers for all three competitors in Table 2.

Table 2: Unique Users by Month for Instant Messaging Services: Mar '00-Sep '02

000's of users				Percent of Total Users					
Date	AOL	MSFT	Yahoo	Total	AOL	MSFT	Yahoo		
Mar-00	33355	4748	6213	44316	75.3	10.7	14		
Apr-00	33732	5170	5736	44638	75.6	11.6	12.9		
May-00	33915	6009	7952	47876	70.8	12.6	16.6		
June-00	34779	6503	8457	49739	69.9	13.1	17		
Jul-00	35223	7611	8700	51534	68.3	14.8	16.9		
Aug-00	35321	8798	9371	53490	66	16.4	17.5		
Sep-00	34479	9573	9541	53593	64.3	17.9	17.8		
Oct-00	34774	9986	9497	54257	<b>64</b> .1	18.4	17.5		
Nov-00	35487	11537	10564	57588	61.6	20	18.3		
Dec-00	35584	12043	10240	57867	61.5	20.8	17.7		
Jan-01	36816	13016	10416	60248	61.1	21.6	17.3		
Feb-01	37770	13997	10795	62562	60.4	22.4	17.3		
Mar-01	37599	14817	10869	63285	59.4	23.4	17.2		
Apr-01	37871	16050	10788	64709	58.5	24.8	16.7		
May-01	37262	16383	10711	64356	57.9	25.5	16.6		
June-01	39293	16927	11327	67547	58.2	25.1	16.8		
Jul-01	41487	17425	11637	70549	58.8	24.7	16.5		
Aug-01	41626	18408	12026	72060	57.8	25.5	16.7		
Sep-01	41670	18539	11935	72144	57.8	25.7	16.5		
Oct-01	42950	19044	12616	74610	57.6	25.5	16.9		
Nov-01	43927	20586	13742	78255	56.1	26.3	17.6		
Dec-01	44964	22236	14004	81204	55.4	27.4	17.2		
Jan-02	45433	22783	14403	82619	55	27.6	17.4		
Feb-02	45362	23117	15424	83903	54.1	27.6	18.4		
Mar-02	46322	25168	15583	87073	53.2	28.9	17.9		
Apr-02	46381	24321	15738	86440	53.7	28.1	18.2		
May-02	47595	24618	16308	88521	53.8	27.8	18.4		
June-02	47773	24724	16275	88772	53.8	27.9	18.3		
Jul-02	46871	25025	16619	88515	53	28.3	18.8		
Aug-02	50454	25332	16553	92339	54.6	27.4	17.9		
Sep-02	48216	25283	17658	91157	52.9	27.7	19.4		

Figure 1 presents graphs of market shares over the applicable time period.

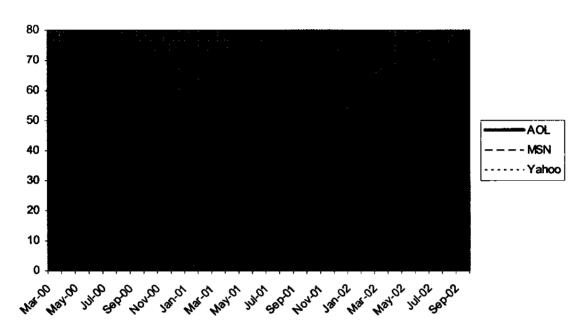


Figure 1
Market Shares of IM Providers Mar00-Sep02

Based on examining the market share figures in Table 2 and the graphs of market shares in Figure 1, it is evident that AOL's market share has been declining fairly consistently over the 31 month period from March 2000 through September 2002. Between March of 2000 and December of 2000, AOL's market share dropped by approximately 14 percentage points. Between January of 2001 and December of 2001 it dropped by a further 5 ½ percentage points. Finally, between January of 2002 and September 2002 the decrease was 2 percentage points. Over this period declines in AOL's market share were matched by increases in both its competitors' market shares. While no data are reported for the period before March 2000, AOL was the initial entrant in this market and did not face competition from Yahoo! Messenger or

MSN Messenger until mid-1999.<sup>12</sup> Therefore, the market share of AOL was 100 percent in early 1999 before any entry occurred and likely declined continuously between when entry occurred and March 2000.

#### B. What the Data Mean

The data clearly show that AOL is still a strong competitor in this market. However, the data also clearly show that there are two additional strong competitors who have substantial market shares themselves. Furthermore, the data show that these competitors' market shares have been continuously and consistently growing at the expense of AOL's market share over the entire three and a half year period since they have entered the market. At the time the Commission adopted its *Order* in January of 2001, Microsoft and Yahoo! had been in the market for little over a year. Although their shares had been growing very rapidly over this period, the Commission chose to discount this evidence, perhaps because the market was still so new.

In particular, the Commission predicted that if AOL did not interoperate with its competitors, that the market would "tip" to AOL because existing customers of Yahoo! and Microsoft would choose to switch to AOL because of its larger customer base and that Yahoo! and Microsoft would therefore shrink in size. The *Order* specifically predicted that new customers would generally prefer AOL because of its larger customer base. 14

Yahoo! Messenger launched on June 21, 1999. See "Yahoo! Key Milestones," http://docs.yahoo.com/info/pr/milestones.html. MSN Messenger launched roughly one month later, on July 22, 1999. See "MSN Messenger Service Reaches Over 700,000 People In First Six Days of Availability," http://www.microsoft.com/presspass/press/1999/Jul99/Sixdayspr.asp.

Order at ¶ 155 ("The largest provider's refusal to interoperate will lead to users switching to it from the smaller providers, which will further swell the dominant provider's NPD and shrink the smaller ones. This will continue until the largest provider's network is the dominant one, perhaps yield the provider monopoly control of the market.").

Id. at ¶ 158 ("Most users of IM want to be able to compose their buddy lists from, and/or engage in IM with, the largest number of other users. Therefore when choosing between rival IM services, a typical new user will place the greatest value on the service with the largest NPD (and therefore the most users) and will choose that service.") (emphasis added).

These predictions, which served as the basis of the Commission's decision to impose the Condition, have been flatly contradicted by actual events. Microsoft and Yahoo! have continued to grow strongly over the past two years. In fact they have continued to grow at a greater rate than AOL so that their absolute market shares have increased. Between January of 2001, when the Commission adopted its *Order*, and September 2002, the market share of AOL dropped 8 percentage points while the market shares of Microsoft and Yahoo! increased, respectively, by 6 percentage points and 2 percentage points.

Perhaps the most significant and important finding of non-dominance that the Commission has ever made was its finding in 1995 that AT&T was no longer dominant in the market for long distance. Although the economic issues at stake here are somewhat different, it is instructive to compare the level and trends in AT&T's market share at the time it was found to be non-dominant with the level and trend of AOL's market share today. In the AT&T proceeding, the Commission noted that in the ten-year period from 1984 to 1994, AT&T's market share in long distance telephone service had fallen from 90% to 55.2% (as measured by revenue) and to 58.6% (as measured by minutes). The Commission found that "the decline in AT&T's market share suggests that AT&T no longer possesses market power." The Commission also found that "AT&T faced at least two full-fledged facilities based competitors," Sprint and MCI, as well as many smaller rivals. Note that AOL's current market share of

<sup>&</sup>quot;The Majority essentially employs a 'tipping' analysis in an effort to make this case, attempting to demonstrate that the IM market has nearly tipped, or will tip when AOL combines with Time Warner. The Majority avers, however, that it expresses no opinion on whether its conclusions can be read as a finding the market has tipped... Whatever the semantics of its conclusions, the Majority's market tipping analysis is a critical analytical underpinning for the IM condition." Powell Separate Statement at 4-5.

See generally In the Matter of Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, 11 FCC Rcd 3271 at ¶ 67 (1995).

<sup>17</sup> See id.

See id. at ¶ 70.

58.5% is essentially the same as AT&T's market share at the time it was found to be non-dominant. Furthermore, just as for AT&T, AOL's share has been consistently declining and it also faces two strong competitors as well as smaller rivals.

# II. OTHER EVIDENCE OF COMPETITION

Of course, other factors besides the level and trend in market shares can be important to help assess the level of competition in a market. In this section I will describe a number of such factors that reinforce my conclusion that competition in the market for instant messaging is healthy and that there is no danger that the market will "tip" towards AOL.

### A. Competition has driven prices to zero

A reasonable definition of market power is that a firm has market power if it is able to increase its profits by raising price above the competitive price. According to this definition, it seems clear that AOL has not demonstrated any market power because AOL, along with its two competitors, makes its IM services available to consumers for free. I think the most natural interpretation of this fact is that consumers' demand is very elastic with respect to price and that price has therefore been competed down to zero. To put this another way, I think the fact that AOL does not raise its price above zero provides rather strong evidence that AOL perceives that it would lose a substantial fraction of its customers if it raised prices above zero. This is not consistent with the existence of market power.

# B. Both competitors have already introduced streaming video AIHS services

Both Microsoft and Yahoo! have already entered the market for streaming video AIHS services ahead of AOL. This, once again, provides independent evidence of their competitive viability. Yahoo! was the first to enter this market. Version 5.0 of Yahoo! Messenger, which

was released in the fall of 2001, included the first instant messaging service to integrate Webcam functionality. Microsoft's IM offerings, MSN Messenger and Windows Messenger, also each provide streaming video capabilities.<sup>19</sup>

#### C. Microsoft bundles its IM services with Windows XP

In the Petition to which this report is attached, AOL Time Warner describes Microsoft's Internet strategy that has unfolded since the *Order* was adopted, which includes the bundling of Microsoft Passport, Windows Messenger and Windows Media Player into its new operating system, Windows XP. The Windows operating system's dominance ensures widespread adoption of Windows XP. In its first year of sales, consumers purchased over 67 million copies of Windows XP. A Microsoft executive has noted that during Microsoft's third quarter 2002, "Windows XP shipped on nearly 60% of all new PCs, which represents a faster penetration than any of our previous operating systems." Therefore Microsoft can use Windows XP as a "platform" to encourage widespread adoption of its own IM service.

# D. Both competitors have substantial non-IM related subscriber bases which they could use to increase their IM subscriber bases

Both Microsoft and Yahoo! have substantial non-IM related subscriber bases, and there is no reason to doubt they could use these subscriber relationships to further populate their own NPDs and then prompt those subscribers to activate an NPD-based service such as IM. For example, Microsoft's "Passport" service is used as a means of identification and authentication for a variety of Microsoft sites (for example, Hotmail and Microsoft Communities). Microsoft

See http://www.microsoft.com/windowsxp/pro/using/howto/communicate/videoconf.asp (Windows Messenger); Jim Hu, "Microsoft Flicks On Webcam," Cnet News.com March 11, 2003, available at <a href="http://news.com.com/2102-1025-992080.html">http://news.com.com/2102-1025-992080.html</a> (MSN Messenger).

See Microsoft Announces Record First Quarter Revenue, PR Newswire October 17, 2002.

See "Microsoft Announces Fiscal Third Quarter Results," http://www.microsoft.com/ PressPass/press/2002/apr02/04-18Q02-3EarningsPR.asp (posted 4/18/02).

reported in March of 2002 that consumers have signed up for over 200 million Passport accounts<sup>22</sup> and that Passport authentications exceed 3.5 billion per month.<sup>23</sup> By October of 2002, consumers had signed up for over 270 million passport accounts.<sup>24</sup> Similarly, both access to Yahoo! Messenger and the various proprietary Yahoo! sites (Yahoo! Groups, Yahoo! Personals, Yahoo! Mail, etc.) require a Yahoo! ID, and Yahoo! has issued more than 86 million IDs.<sup>25</sup>

For all of these reasons, I am more certain that the market for IM has not "tipped," and, contrary to predictions made when the *Order* was adopted, it is not in danger of "tipping" to AOL.

# III. THE COSTS OF MANDATING COMPATIBILITY IN MARKETS WITH NETWORK EFFECTS

In this section, I explain why the Condition is likely to impose social costs even though it generates no social benefits. Although the Condition itself does not require AOL to interoperate with its competitors, the intent behind the Condition, and its practical effect, is to create incentives for AOL to make its IM offerings interoperable with other IM services. I explain why imposing compatibility conditions on certain competitive network industries in some cases can be costly and create inefficiencies and distortions.

A huge variety of modern markets exhibit what economists refer to as "network effects," which simply means that consumers of a product derive more value from that product as more consumers purchase or use it. With respect to instant messaging, the source of network effects is that people value a network more to the extent that more people join the network, because this

See ".Net Passport Overview," http://www.microsoft.com/netservices/passport/overview.asp (viewed 03/11/03).

<sup>&</sup>lt;sup>23</sup> See "Customers Wary of Online IDs," http://news.com.com/2100-1001-892808.html (posted 4/26/02).

See iRevolution Joins Forces With RSA Security to Provide Secure Online Authorizations to Microsoft .net Passport, M2 Presswire Oct. 11, 2002.

allows them to communicate with more people. The market for word-processing software provides another example. In the word processing market, the source of network effects is that people often wish to exchange files with one another and therefore find it convenient if they use the same program.

In many markets with network effects, it is also often possible for firms to arrange for their products to be "compatible" so that consumers using two different products can share in the network effect. For example, in the market for instant messaging, two services would be compatible if the two services interconnected so that the user of one service would be able to communicate equally well with the users of either service. In the market for word processing software, one could achieve compatibility by arranging for two programs to be very similar to one another and for a good translation device to be created which allowed one to easily translate files between programs.

In markets with network effects there is an obvious gain to be had from compatibility of products. This is simply that more positive network externalities can be created. Nonetheless, in many competitive markets which exhibit network effects it is often the case that not all firms choose to be compatible with other firms. Furthermore, government generally does NOT attempt to mandate compatibility through regulation in competitive markets. This is because at least four types of serious problems can occur when government attempts to mandate compatibility.

Each of these can be nicely illustrated with reference to the market for word-processing programs. Suppose, for example, that government contemplated issuing a set of standards that all word processing programs must follow in order to facilitate and enable translation between

<sup>&</sup>lt;sup>25</sup> See Chris Kidder, "Yahoo! is ready to spread spam," Florida Today, April 2, 2002 at 1 People.

programs. The first problem with such a scheme is that the standards would likely constrain individual firms' design decisions. The second problem is that it would be extremely costly and time consuming to come up with a set of standards, adjudicate disputes that arose, and keep continually updating the standards as necessary. The third problem is that firms could attempt to use the regulatory process to their own advantage in order to disadvantage competitors. The fourth problem is that firms would lose much of their incentive to innovate because the process of keeping products compatible would require innovating firms in many cases to share their innovations with their competitors.

Therefore, because government recognizes that mandating compatibility can constrain design changes, is costly, can provide opportunities for firms to game the regulatory process, and can reduce firms' incentives to innovate, government generally does not choose to mandate compatibility in markets with network effects so long as they appear to be sufficiently competitive. In such markets individual firms, for their own competitive and strategic reasons, often choose not to become perfectly compatible with all other firms. However, government does not view this as a sign that regulatory intervention is automatically necessary. Rather, regulators realize that, to some extent, firms have an incentive to compete in innovation precisely because their products are incompatible and that regulation imposes many of its own costs and distortions.

Of course this is not to say that there is never any role for government to mandate or at least encourage compatibility in some cases. For example, if network effects are large enough and if one firm becomes dominant enough in a market, then the market may "tip" if the large firm refuses to make its product compatible with those of competitors and we would be left with

only a single monopoly provider of the service.<sup>26</sup> If this possibility were likely enough and if government thought that barriers to future entry were high enough to prevent entry of potential new innovators, then a case might exist for mandating some form of compatibility.

The Commission should keep these concerns in mind when it considers the question of whether or not to remove the Condition. All four costs of regulation that I identify above are potentially large and serious in this case. First, mandated interoperability will require some form of standard setting for interfaces -- whether by a private group or the Commission -- and this will limit firms' design choices for the nature of their own systems.

Second, a full-blown mandated interoperability regime is likely to be complex and expensive to run. Disputes will arise as to whether various practices prevent or degrade interoperability and some neutral body will be forced to adjudicate these. If a firm responds to mandated interconnection by agreeing to interconnect but then charges its competitors a high price when messages are transferred, those administering the standard will be forced to begin proceedings to determine a "fair and reasonable" interconnection price. The tangled and complicated history of the Commission's various interconnection proceedings make it abundantly clear that this is not a simple or easy task.

Third, there will be a potential for firms to "game" the standard setting process to disadvantage their competitors and damage competition. For example, all sorts of technical changes to one system might potentially interfere with or at least degrade interoperability. The administrator of the standard will then be forced to endlessly adjudicate complaints where one competitor attempts to interfere with the introduction of innovations by another competitor by claiming that they interfere with interoperability.

Some people have pointed to the market for computer operating systems as an example. See generally U.S. v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

Fourth, and perhaps most important, mandated interoperability will interfere with firms' incentives to innovate and bring to market new types of products and services because mandated interoperability will require innovators to share more of the gains from innovation with competing firms. This is because, to the extent new innovations interfere with interoperability, innovating firms might find themselves forced to share their innovations with other firms.

Therefore, in a rapidly evolving market such as the IM market -- where innovation of new products and new processes is of paramount importance -- the Commission would best protect and further the public interest by removing the Condition, since it creates costs and is not needed to insure the survival of multiple strong competitors.

#### IV. CONCLUSION

AOL's market share has been declining ever since the Commission entered the *Order* and, indeed, ever since its competitors entered the market. This and other evidence suggests that competition in this market is now strong and stable and, in particular, that there is no longer any plausible danger of the market "tipping" to AOL because of network effects. Where regulations such as the Condition no longer serve an evident pro-competitive purpose, they likely impose costs that are passed on to consumers in the form of reduced choice or decreased innovation in the market. For all of these reasons, I conclude that the Condition should be removed.

I declare that the foregoing is true and correct:

William P. Rogerson

Dated:

March 31, 2003

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# **EXHIBIT 1**

# Curriculum Vitae of William P. Rogerson

Personal

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# **Education**

B.A., Economics, University of Alberta, 1976 Ph.D., California Institute of Technology, 1980

# **Current Employment**

Professor of Economics, Northwestern University

# Honors, Awards and Research Grants

Graduated from the University of Alberta with distinction, 1976

Earl C. Anthony Fellowship, 1976-77

Canada Council Doctoral Fellowship, 1979-80

Shelby Cullom Davis Fellowship, 1979

NSF Grant SES-8320451, "Moral Hazard, Reputation, and Product Quality," March 1984 - March 1985

NSF Grant SES-8504304, "Moral Hazard, Reputation, and Product Quality," April 1985 - September 1987

NSF Grant IRI-8705477, "Contracting Under Asymmetric Information," July 1987 - December 1989

Named to Household International Professorship in Economics, September 1987 - August 1989

Lynde & Harry Bradley Foundation Research Grant, "An Economic Analysis of Defense Procurement Regulations," June 1989 - December 1991.

NSF Grant SES-8906751, "Profit Regulation of Defense Contractors," August 1, 1989 - July 31, 1991.

Olin Fellow at The Center for the Study of the Economy and the State, University of Chicago, October 1, 1989 - June 30, 1990.

Smith Richardson Foundation, Inc. Research Grant, "Economic Incentives and the Defense Procurement Process," March 1, 1993 - May 31, 1995.

Elected a Fellow of the Econometric Society, 1999.

### **Research and Teaching Interests**

Industrial Organization, Regulation, Telecommunications, Cost Accounting, Defense Procurement, and Health Care.

#### **Employment History**

Research Assistant to Canadian Member of Parliament, Arnold Malone, June 1975 - September 1975

Teaching Assistant at University of Alberta, September 1975 - June 1976

Economist, Department of Industry, Trade and Commerce, Government of Alberta, June 1976 - September 1976

Research Assistant, Environmental Quality Laboratory, Caltech, June 1977 - September 1977

Economist, Long Range Planning and Structural Analysis Division, Department of Finance, Government of Canada, June 1978 - September 1978

Teaching Assistant to Professor Charles R. Plott, Division of Humanities and Social Sciences, Caltech, September 1979 - June 1980

Assistant Professor of Economics, Stanford University, September 1980 - August 1984

Associate Professor of Economics, Northwestern University, September 1984 - May 1990

Professor of Economics, Northwestern University, May 1990 - Present

Chair, Economics Department, Northwestern University, September 1996 - August 1998.

Chief Economist, Federal Communications Commission, June 1, 1998-May 31, 1999 (on leave from Northwestern for this year.)

Director, Northwestern Program in Mathematical Methods in the Social Sciences, September 2000- present.

#### **Professional Activities**

Editor of Defense and Peace Economics, January 1995 - December 1998.

Member of the editorial board of <u>Defense and Peace Economics</u>, September 1991 - December 1998.

Member of the editorial board of <u>Review of Accounting Studies</u>, September 1993 to present.

Member of the editorial board of Journal of Industrial Economics, October 1995- Sept. 1998.

Chief Economist of Federal Communications Commission, June 1, 1998 - May 31, 1999.

Member of the Illinois Economic Policy Council, September 1999 to September 2000

Consultant to: Federal Communications Commission, Federal Trade Commission, Institute for Defense Analysis, Logistics Management Institute, Office of the Secretary of Defense (Program Analysis and Evaluation), RAND Corporation, US Department of Justice

## **Refereed Publications**

"Aggregate Expected Consumer Surplus As a Welfare With an Application to Price Stabilization," *Econometrica*, 49, No. 2, (March 1980), pp. 423-436.

"Agriculture in Development: A Game-Theoretic Analysis," with Robert Bates, *Public Choice*, 35, (1980), pp. 513-527.

"The Social Costs of Monopoly and Regulation: A Game-Theoretic Analysis," Bell Journal of Economics, 13, No. 2, (Autumn 1982), pp. 391-401.

"Reputation and Product Quality," Bell Journal of Economics, 14, No. 2, (Fall 1983), 508-515.

- "Consumer Misperceptions, Market Power and Product Safety," with Mitchell Polinsky, *Bell Journal of Economics*, 14, No. 2, (Fall 1983), 581-589.
- "A Note on the Incentive for a Monopolist to Increase Fixed Costs as a Barrier to Entry," Quarterly Journal of Economics, 396, May 1984, 399-402.
- "Efficient Reliance and Damage Measures for Breach of Contract," Rand Journal of Economics, Spring 1984, 39-53.
- "Repeated Moral Hazard," Econometrica, 53, January 1985, 69-76.
- "The First-Order Approach to Principal Agent Problems," *Econometrica*, 53, November 1985, 1357-1368.
- "Robust Trading Mechanisms" with Kathleen Hagerty, Journal of Economic Theory, 42, June 1987, 94-107.
- "The Dissipation of Profits by Brand Name Capital and Entry When Price Guarantees Quality," *Journal of Political Economy*, 95, August 1987, 797-809.
- "A Note on the Existence of Single Price Equilibrium Price Distributions," *Review of Economic Studies*, 54, April 1987, 339-342.
- "Price Advertising and the Deterioration of Product Quality," Review of Economic Studies, 55, April 1988, 215-230.
- "Profit Regulation of Defense Contractors and Prizes for Innovation," *Journal of Political Economy*, 97, December 1989, 1284-1305.
- "Quality vs. Quantity In Military Procurement," American Economic Review, 80, March 1990, 83-92.
- "Excess Capacity in Weapons Production: An Empirical Analysis," Defence Economics, 2, 1991, 235-250.
- "Optimal Depreciation Schedules for Regulated Utilities," *Journal of Regulatory Economics*, 4, 1992, 5-33.
- "Contractual Solutions to the Hold-Up Problem," Review of Economic Studies, 59, October 1991, 777-794.
- "Incentives, the Budgetary Process, and Inefficiently Low Production Rates in Defense Procurement," *Defence Economics*, 3, 1991, 1-18.
- "Overhead Allocation and Incentives for Cost Minimization in Defense Procurement," *The Accounting Review*, 67, 1992, 671-690.
- "Choice of Treatment Intensities by a Nonprofit Hospital Under Prospective Pricing," Journal of Economics and Management Strategy, 3(1), Spring 1994, 7-52...
- "Economic Incentives and the Defense Procurement Process," *Journal of Economic Perspectives*, 8(4), Fall 1994, 65-90.
  - "Inter-Temporal Cost Allocation and Managerial Investment Incentives," *Journal of Political Economy*, 105(4), 1997, 770-795.
- "The Regulation of Broadband Telecommunications, The Principle of Regulating Narrowly Defined Input Bottlenecks, and Incentives for Investment and Innovation," *University of Chicago Legal Forum*, 2000, 119-147.
- "The Use of Simple Menus of Contracts in Cost-Based Procurement and Regulation," American Economic Review, June 2003, forthcoming.

#### **Other Publications**

- "Electric Generation Plants" Appendix F.1 in *Implementing Tradable Emissions*Permits for Sulfur Oxides Emissions in the South Coast Air Basin, Vol. II, by Glen R. Cass, Robert W. Hahn, Roger G. Noll, ARB Contract No. A8-141-31, June 30, 1982.
- "A Comment on Political Institutions and Fiscal Policy: Evidence from the U.S. Historical Record," *Journal of Law Economics and Organization*, 6, Special Issue, Conference on "The Organization of Political Institutions", 1991, 155-166.
- "Inefficiently Low Production Rates in Defense Procurement: An Economic Analysis," Leitzel, Jim and Jean Tirole, eds., *Incentives in Defense Procurement*. Boulder: Westview Press, 1993.
- Profit Regulation of Defense Contractors and Prizes for Innovation, RAND, R-3635-PA&E, 1991.
- An Economic Framework for Analyzing DoD Profit Policy, RAND, R-3860-PA&E, 1991.
- Overhead Allocation and Incentives for Cost Minimization in Defense Procurement, RAND, R-4013-PA&E, 1992.
- "Review of 'A Theory of Incentives in Procurement and Regulation," book review, Journal of Political Economy, 102, 1994, 397-402
- On the Use of Transfer Prices in DoD: The Case of Repair and Maintenance of Depot Level Reparables by the Air Force, Logistics Management Institute Paper PA303RD2, January 1995, Logistics Management Institute, McLean, VA.
- "Incentive Models of the Defense Procurement Process," in Hartley, Kieth, and Todd Sandler, eds., *The Handbook of Defense Economics*, North Holland, 1995, 309-346...
- "The Economics of University Indirect Cost Reimbursement in Federal Research Grants," (with Roger Noll) in Roger Noll, ed., *Challenges to the Research University*. Washington: Brookings Institution, 1997.
- "New Economic Perspectives on Telecommunications Regulation," (review of Competition in Telecommunications, by Jean-Jacques Laffont and Jean Tirole), University of Chicago Law Review, 67, Fall 2000, 1489-1505.