ATTACHMENT 3

REPLY DECLARATION OF MICHAEL KENDE

REDACTED – FOR PUBLIC INSPECTION

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

In the Matter of	)	
	)	
Verizon Communications Inc. and	)	
MCI, Inc.	)	WC Docket No. 05-75
Applications for Approval of	)	
Transfer of Control	)	

REPLY DECLARATION OF MICHAEL KENDE

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Trends for 2000–2005 affecting operators of backbones

Reply Declaration of Michael Kende
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1 Introduction

1. I am a Principal Consultant for Analysys and Head of our U.S. offices. I previously submitted a declaration in this matter on March 11, 2005. My qualifications are included in that declaration.

2. This Reply Declaration responds to several issues raised by commenters. Several commenters raised the issue that the merger would create a "mega-peer," which, along with SBC – AT&T, would create two dominant firms that could discriminate against smaller backbones and ultimately raise prices for services provided by backbone operators.[1] Commenters also argue that the merger will change the nature of the merged entity, transforming it into an "eyeball behemoth" able to exploit the traffic imbalances that result from adding Verizon's DSL customers to MCI's network.[2] Other commenters complained about the lack of more recent Internet backbone data,[3] and have raised issues based on the data that were provided in my Declaration of March 11, 2005 ("First Kende Declaration").[4] In this Reply Declaration I provide updated information regarding market shares for Verizon and MCI, and show why concerns regarding the creation of a "mega-peer" that is "eyeball heavy" are unfounded.

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1 *See* Texas Office of Public Utility Counsel at 9, Broadwing/Savvis at 44-50, Independent Alliance at 4, Vonage at 7, Cox Communications at 13-14.

2 *See* Broadwing/Savvis at 50-52, EarthLink at 7-8.

3 *See* ACN Communications Services at 31, New York Attorney General at 18 (asking for more information on the shares of Verizon and MCI in the Internet backbone and the combined share of the merged entity), Broadwing/Savvis at 49-50.

4 *See* EarthLink Comments at 6, CompTel/ALTS Comments at 30-31. EarthLink also notes that the traffic data in the First Kende Declaration only identifies AT&T.

3. This Reply Declaration also shows more generally how competition among Internet backbone operators has changed markedly in the past five years due to powerful commercial and technological forces. MCI currently faces ever-increasing competition from a number of competitors with backbones comparable to or greater than MCI's backbone in size and scope, while Verizon has a substantially smaller backbone. The plentiful availability of long-haul fiber networks has led to increases in the supply of access services and enabled retail and wholesale customers to reduce their need for connectivity from larger Internet backbones. At the same time, new commercial arrangements and technological advances also enable customers to reduce their need for connectivity. As a result, although Internet traffic has continued to increase rapidly, per-unit prices and revenues for Internet backbone operators have declined steadily. Against this backdrop, other backbone operators have been catching up with, and even overtaking, MCI. Thus, there is far more competition among Internet backbones today than there was five years ago, when the Federal Communications Commission last reviewed a merger involving Internet backbones.[5] Given these developments, there is no plausible basis for claims that the transaction will reduce competition among Internet backbones.

2 Backbone Competition is Increasing by Any Measure

4. *Overview* All available information about the provision of connectivity over Internet backbones shows that the Internet is robustly competitive regardless of the measure used to assess competitiveness or concentration. There are several such measures available, including revenue, traffic, and the number of connections. In the First Kende Declaration, I presented data concerning all three of these measures. In this Reply Declaration, I provide additional specific data concerning the traffic volumes of MCI and Verizon to respond to several claims made by commenters. I also provide additional historical data that show the dynamic nature of the business, as well as

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[5] *In the Matter of Application of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom Inc.*, Memorandum Opinion and Order, 13 FCC Rcd 18025 (1998) (approving merger of MCI and WorldCom); *Applications of Sprint Corporation , Transferor and MCI WorldCom, Inc, Transferee for Consent to Transfer Control of Corporations Holding Commission Licenses and Authorizations*, Order, 15 FCC Rcd 15783 (2000) (terminating the FCC's proceeding considering the transfer of control of certain licenses and authorizations from Sprint to MCI WorldCom).

recent changes in the market position of MCI. All measures show increasing competition and decreasing concentration, and none indicates that the combination of Verizon and MCI will change this trend.

5. *Traffic* In the following paragraphs I present additional general traffic data provided by RHK, as well as actual traffic flows measured by Verizon and MCI in April 2005.[6] Traffic estimates may provide the best data to evaluate commenters' claims about the ability of the merged entity to discriminate based on sheer size and/or the balance of eyeballs versus content. First, as shown in the First Kende Declaration, peering policies contain criteria based on traffic flows and traffic balance, and thus actual traffic figures indicate how particular peering policies will be applied. Second, traffic data do not suffer from the measurement issues raised by the available revenue and AS connections data (as discussed in the First Kende Declaration).

6. A study prepared by RHK (RHK Study) provides estimates of the traffic shares of the seven largest Internet backbones in North America. As seen in Exhibit 1, monthly Internet traffic in North America has continued to increase since the end of 2002. RHK estimates that at the end of 2004 there were 416 petabytes of data per month being exchanged over the Internet in North America. RHK calculated this figure by estimating the total amount of incoming Internet traffic for each network.

7. RHK has estimated the total amount of Internet traffic since at least 2002 and over the years has obtained monthly traffic data from various backbone operators. The RHK Study identified the traffic volumes for the seven largest Internet connectivity providers as shown in Exhibit 2.[7] This exhibit helps to illustrate two points on MCI's status in North America. First, in each quarter of 2004, MCI consistently ranked fourth out of the top seven providers in terms of the amount of North American traffic carried. Second, MCI's share of total traffic dropped in each quarter of 2004 from 8.3% in the beginning of the year to 7.4% at the end. In addition, RHK data show that

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[6] Verizon measured traffic for the entire week commencing April 13, 2005, and MCI measured traffic for the entire week commencing April 11, 2005.

[7] For confidentiality reasons, RHK identified only MCI and did not identify any other carrier by name. RHK did confirm that Verizon was not among the top seven providers, however.

Verizon is not among the top seven backbones as ranked by traffic volume and listed by RHK as presented in Exhibit 2.

8. The RHK study shows that MCI's market share at the end of 2004 was approximately 7.4%, based on its estimate that MCI had approximately 30.87 petabytes per month of incoming Internet traffic.[8] **[PROPRIETARY BEGINS]**

[PROPRIETARY ENDS] As noted above, MCI and Verizon measured their inbound and outbound Internet traffic during a one-week period in April 2005. Based on this traffic study, I calculate that MCI had **[PROPRIETARY BEGINS] [PROPRIETARY ENDS]** petabytes per month of incoming traffic in April 2005 using the RHK methodology.[9] Likewise, I calculate that Verizon carried approximately **[PROPRIETARY BEGINS] [PROPRIETARY ENDS]** petabytes per month of incoming Internet traffic over its network during the same period.[10] This is approximately 2 percent of the total amount of traffic carried over the

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[8] RHK measures Internet traffic based on "offered load," which RHK defines as "the sum of all traffic entering a network's edge from all sources, including dedicated access, dial-up, broadband, hosting, international, and peering." RHK Study, p. 2. RHK "only use[s] incoming traffic to avoid double counting. [RHK has] validated that the total incoming traffic at the measured point[s is] equal to the total outgoing traffic." RHK Study, p. 3.

[9] This includes all of the inbound traffic into MCI's North American network from dedicated, dial-up, and hosting customers, as well as from its peers and traffic sent from MCI's international networks.

[10] This is inbound traffic to Verizon's network from its transit suppliers, peering partners, and DSL customers. This does not include traffic from Verizon's dedicated Internet access customers other than DSL customers; Verizon informed me that it does not collect data concerning traffic from its dedicated Internet access customers other than DSL customers. But this traffic is not likely to add significantly to the total. Verizon's data indicate that the amount of capacity activated to connect Verizon's other dedicated Internet access customers to Verizon's Internet backbone represents approximately just over **[PROPRIETARY BEGINS] [PROPRIETARY ENDS]** of the capacity activated to connect Verizon's DSL customers to Verizon's Internet backbone.

Internet in North America.[11] Thus, the post-transaction traffic volume would be **[PROPRIETARY BEGINS] [PROPRIETARY ENDS]** petabytes per month and the combined market share would represent, at most, 9.5% of total Internet traffic in North America.[12] This calculation shows that the combined company would still rank fourth in terms of aggregate traffic share, behind Company C on the RHK ranking that had 45.89 petabytes per month at the end of 2004. I reach two conclusions based on this data. First, the combined company, with under 10% of the traffic share, will not be a "mega-peer" by any definition. Second, the combined company together with SBC-AT&T will still have approximately only 28% of Internet traffic, while the top 7 backbones will have just over 65% of the traffic.[13]

9. The traffic data gathered from Verizon and MCI also provide insight into the Broadwing and SAVVIS argument that because both MCI and Verizon are "eyeball heavy," the merger will create an "eyeball behemoth" that "could seize upon this imbalance to de-peer, or threaten to de-peer, SAVVIS and Broadwing for anti-competitive purposes."[14] Traffic data collected by MCI and Verizon refute both the premise and the substance of this argument. First, MCI is not "eyeball heavy" because

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[11] Prior to 2005, Verizon's DSL customers located in the former-GTE territories were connected directly to Level 3's (formerly Genuity's) backbone. In January 2005, Verizon began to transition these customers to Verizon's network. Verizon estimates it will complete the transition in August 2005. The transition was approximately two-thirds completed by mid-April 2005, when the Verizon traffic study was conducted. Even if all the traffic for the transition were taken into account, the amount of traffic on Verizon's network would not materially change. It would go from approximately **[PROPRIETARY BEGINS] [PROPRIETARY ENDS]** petabytes per month to **[PROPRIETARY BEGINS] [PROPRIETARY ENDS]** petabytes per month.

[12] To get this total number I added the traffic volume from Verizon's study to the RHK estimate for MCI. If I had used the actual traffic volume from MCI's traffic study instead of RHK's estimate, the total traffic would be even lower. In addition, any estimate of the total share of the combined company overstates what the actual traffic volume will be for the combined company. Specifically, today traffic sent from a customer of Verizon to a customer of MCI will be counted separately as inbound traffic into each network, whereas it should be counted only once for the calculation of inbound traffic into the combined company's network. Verizon and MCI were not able to identify this traffic in their respective traffic studies, so I cannot say with certainty by how much the estimate overstates what the true traffic volume would be.

[13] First Schwartz Declaration at para. 22 and n. 15; Schwartz Reply Declaration at paras. 11-12. I used the RHK data in Exhibit 1 below to calculate the resulting traffic share of the top 7 backbone operators.

[14] Broadwing and SAVVIS comments at 51-52.

traffic sent in to MCI customers is **[PROPRIETARY BEGINS]** **[PROPRIETARY ENDS]** that coming out from MCI customers, with an inbound-to-outbound ratio of **[PROPRIETARY BEGINS]** **[PROPRIETARY ENDS]** Second, because MCI carries substantially more traffic than Verizon, adding Verizon traffic to the MCI network increases the ratio only to **[PROPRIETARY BEGINS]** **[PROPRIETARY ENDS]** even though the ratio of inbound to outbound traffic delivered to and from Verizon's customers is more than **[PROPRIETARY BEGINS]** **[PROPRIETARY ENDS]** Under any of the peering policies listed in the First Kende Declaration, including those of MCI or Broadwing/SAVVIS, on average the change in traffic balance would not lead the merged company to terminate peering with any current peer**.**

10. *Revenues* In this Reply Declaration, I present historical revenue data from IDC that show that MCI's revenues have been falling over the years covered by these data. Exhibit 3 shows the top ten Internet connectivity providers by wholesale IP revenue from 2000 to 2003.[15] As that Exhibit demonstrates, MCI's wholesale IP revenues have steadily declined in each year of the study. In 2003, Level 3 replaced MCI as the top provider in terms of wholesale IP revenue. Exhibit 4 is an accessory diagram for wholesale IP revenues, and shows that MCI's share of revenues declined from almost 44% in 2000 to below 21% in 2003. Exhibit 5 shows the top ten providers by business IP revenues from 2000 to 2003.[16] As with wholesale IP revenues, MCI's business IP revenues have declined in each year since 2000. Although MCI had the largest share of business IP revenues in 2003, Exhibit 6 shows that MCI's overall revenue share decreased from over 37% in 2000 to below 21% in 2003.

11. Exhibit 3 – Exhibit 6 show two major trends in wholesale and business IP revenues, as defined by IDC: first, in aggregate, the total amount of business and wholesale IP revenues has decreased from $12.2 billion in 2000 to $10.7 billion in 2003; second,

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15 IDC defined one broad category of wholesale IP access in 2000 and 2001. In 2002 it split its data reporting for its wholesale access category into Managed Modem (Dial), Upstream Transit, and Other (i.e. IP VPNs).

16 IDC defined one broad category of business IP access in 2000 and 2001. In 2002 it split its data reporting for its business access category into Dedicated Internet Access and Remote Access.

MCI's share of total revenues has declined from 37% in 2000 to just over 20% in 2003. An extrapolated weighted trend of MCI's revenues and total industry revenues in 2002 and 2003 shows the MCI share falling further to 19% by the end of 2004.[17] These data show that, in a market with declining overall revenues, competitors have eroded MCI's market shares over the past several years. It is worth noting that Internet traffic is continually growing, as shown in Exhibit 1. Thus, falling revenues result from significant decreases in prices (as presented below in paragraph 16) rather than from a decrease in Internet usage. I will describe below the trends that are putting downward pressure on prices and revenues.

12. While Verizon data are provided in these IDC wholesale and business IP revenue numbers, I do not believe that the revenues reported by IDC for all the incumbent local exchange carriers (LECs), including Verizon, are comparable to those reported for non-incumbent LEC backbone operators, including MCI, and thus it is not meaningful to use these numbers to calculate a market share for the merged company. The IDC wholesale and business IP revenue data, as provided in the First Kende Declaration, report 2003 revenues for what IDC terms (1) U.S. Wholesale Upstream Transit IP Revenue and (2) U.S. Dedicated Internet Access IP Revenue. According to IDC, wholesale upstream transit IP service "usually involves ISPs' purchases of upstream capacity from their [points of presence] POPs to an Internet backbone via a transit link from a wholesale ISP." (U.S. Wholesale IP Forecast and Analysis, 2003-2007, IDC, p. 2).

13. The IDC figures appear to include revenues from the dedicated business lines that incumbent LECs such as Verizon sell to ISPs for ISPs to make connections between their POPs and the incumbent LECs' POPs, at which point the incumbent LECs provide access to the Internet. Non-ILEC backbone providers do not typically provide these dedicated business line connections. Instead, MCI and other backbone providers typically provide transit services at Internet Exchange Points (IXPs) where the connection from an ISP's POP to the backbone is provided by the owner of the IXP.

[17] Rather than a straightline extrapolation back to 2000, it is appropriate to use a methodology that gives more weight to more recent data. Thus, the more recent 2002-2003 market share decline receives 80% of the weighting, while the 2001-2002 market share receives 20% of weighting. IDC did not have the numbers for 2004 to provide the actual estimates of the 2004 revenue numbers using the IDC methodology.

Thus, the revenues that IDC includes for Verizon and MCI as "wholesale upstream transit IP revenue" are not for comparable services.

14. *Connectivity* TeleGeography lists the number of connections that backbone operators have to different Autonomous Systems (AS), which provides a rough proxy for the number of their business and wholesale customers. Exhibit 3 of the First Kende Declaration showed the changes for the current top 50 backbone operators between 2000 and 2004. Exhibit 7 provides further analysis of these data – it shows the top 15 ISPs in 2002 and their subsequent ranking in 2004. Although MCI is still the top provider as measured by AS connections, it has gone from 18.2% of total connections in 2002 down to 13.0% in 2004. Furthermore, the share of the top ten providers has steadily decreased over the past several years, from 64.6% in 2002 to 52.5% in 2004. At the same time, the total number of connections has increased from 17,609 connections in 2002 to 23,341 connections in 2004. Both data trends point to more competition among backbones, with greater ease of entry. The bottom four rows of the exhibit are consistent with these trends; they show that a large portion of the explosion in AS connections growth has been captured by newer or smaller competitors as opposed to providers like MCI and Sprint.

15. The information in these tables also confirms that the combination of Verizon and MCI will not have any significant competitive effects. While MCI has remained at the top of the list of backbone operators ranked by connections, other backbone operators have closed the reported gap since 2000, because MCI has had the smallest increase in connections over that time period of any of the backbones ranked in the top 15 today. Verizon is not on the list of the top 50 at all, and thus the merger would have no noticeable impact on the concentration of the market as measured by connectivity.

16. *Pricing* In addition to the three measures of market share discussed above, I also provide historical price data, which lend further support to the trends described above relating to the increasing competitiveness of the market. Overall prices that backbone operators charge for transit have been declining for the past five years, providing persuasive evidence that competition among Internet backbone operators is intense. Exhibit 8 provides an indication of the reduction in IP transit prices between 2Q2001

and 2Q2004[18]; During that span, prices have declined year-over-year by an average of around 43% for DS3 connections and 45% for OC3 connections. As shown above, this price trend had a negative impact on all providers' revenues over the past few years, and on MCI's revenues in particular. The fact that prices are falling at the same time that traffic is rising reflects several trends that are discussed further in the next section: entry costs are falling, driven in large part by decreases in the unit cost of fiber capacity, and customers are able to find alternatives to their traditional connectivity providers for sending and receiving Internet traffic.

17. *Conclusion* The historical data presented in the present Declaration reinforce the data provided in the First Kende Declaration: MCI has been losing ground in terms of market share over the past several years, and the combination with Verizon would not significantly increase the merged company's market share by any of the relevant measures used, and therefore would not create the "mega-peer" predicted by some commenters.

3 Competitive Trends

18. *Overview* General market trends over the past five years ensure that no existing provider, including the combined company, could exercise market power as the operator of an Internet backbone. All backbone operators face unrelenting competitive pressures that have escalated further due to increases in transport capacity, as well as technological and commercial arrangements used by backbone customers. These trends highlight the technological innovation and entrepreneurship that have been the hallmark of the Internet since its commercial inception.

19. *Fiber* A number of trends have affected the pricing of, and revenues generated by the sale of, transit service. One significant trend is the decrease in the cost of inputs used by Internet connectivity providers, including the cost of long-haul fiber capacity. Long-haul fiber prices (dark and lit) have fallen dramatically since the beginning of 2000, contributing significantly to the maintenance of an active and competitive

[18] Although the prices presented here are for New York, IP transit prices are roughly equivalent for different cities, and thus New York is representative of the national trend in falling prices.

market that provides buyers with a wide range of options for acquiring capacity for Internet services. This trend is driven by the significant increase in the supply of the fiber networks that backbone operators rely on to carry traffic (both in terms of physical fiber available and the capacity of that fiber). The basic price per fiber mile for long-haul dark fiber declined from around $1500 - $2500 between 1998 and 2000 to $150 - $400 today. [19]

20. A related trend is the significant increase in the capacity of existing and new fiber strands, which results predominantly from technological advances in wavelength division multiplexing (WDM). WDM enabled increasing volumes of traffic to be sent over the same strand of fiber, effectively increasing by 160 times the capacity of one strand of fiber from 10Gbit/second in 2000 to 1600 Gbit/second today. When coupled with the significant increase in the number of physical fiber strands available in the multiple networks deployed nationwide in the late 1990s and early 2000s, the overall effect was a significant increase in available long-haul fiber capacity. The result is dramatic: TeleGeography data indicate that no more than 4% of the bandwidth in 2003 was lit in the top 30 U.S. cities (ranked by lit bandwidth).[20] Thus, the steep increases in both total fiber and fiber capacity ensured a large amount of unused capacity on long-haul networks. This, in turn, served to put downward pressure on the price of this key input for Internet backbone operators.

21. Companies with smaller backbones are increasingly taking advantage of the plentiful availability of fiber to expand their own backbones. These firms use their expanded backbones to carry their own traffic, and, in some cases, to sell transit to other companies. For instance, as broadband traffic increases, cable companies that provide retail broadband access are beginning to lease long-haul fiber capacity to create their own backbones, and even issue their own peering policies. Comcast, for instance, reached an agreement with Level 3 at the end of 2004 to extend its national fiber backbone to 95% of its national footprint.[21] In another example, AOL expanded its

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19 These figures are derived from observations of market transactions.

20 TeleGeography research, International Bandwidth 2004, US Network Supply, 2003.

21 Reported in CED Magazine, 7 Dec 2004: http://www.cedmagazine.com/cedailydirect/2004/1204/cedaily041207.htm#1

Transit Data Network to provide connectivity to Time Warner web properties and AOL data centers, while also providing transit services.[22] As described in the First Kende Declaration, its current peering policy indicates that AOL Transit Data Network considers itself a peer of MCI today. This trend puts competitive pressure on Internet connectivity operators today as their customers begin effectively to self-provide Internet connectivity services.

22. Another trend that has significantly affected the economics of Internet connectivity providers over the past five years is the ability of backbone customers to deploy new technology and alternative commercial arrangements in order to reduce their reliance on transit services, thereby decreasing their demand for those services and putting further competitive pressure on Internet connectivity providers. These technologies and arrangements, discussed in the following paragraphs, include secondary peering, mirroring and caching, and multi-homing.

23. *Secondary peering.* Companies that purchase transit are reducing their reliance on transit suppliers by increasingly exchanging traffic through the use of what are known as secondary peering arrangements. Secondary peering occurs when two customers who purchase transit services peer with each other in order to exchange traffic directly that would have otherwise been delivered via transit suppliers. An example would be an ISP peering with a content provider to exchange content with the ISP and, ultimately, its end-users. As a result of this trend, any attempt by any backbone operator, including the combined Verizon/MCI entity, to increase transit prices would lead to increased secondary peering that would further reduce demand for transit services and nullify the attempted price increase.

24. *Technology*. Other means that content providers have to reduce their demand for transit services involve technologies such as mirroring and caching. Mirroring is a "push" technology that permits entire websites to be duplicated on remote servers in order to bring the data closer to end users. For instance, a content provider in Boston may provide significant amounts of data to end users on the West Coast. Rather than pay for transit to send the content to the West Coast every time end-users request it,

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22 *See* www.atdn.net.

the provider can establish a mirror site on the West Coast and only send new and revised content to the West Coast once. This significantly reduces the reliance on transit to the West Coast. Caching, on the other hand, is a "pull" technology that is used when an end user requests content from a source that is geographically far away. When distant end user requests content, it is stored in a cache closer to the end user at the same time that it is delivered to the end user. The next time an end-user in the same region requests the same content, it is delivered from the nearby cache. Again, this reduces the content provider's reliance on transit providers for delivery.

25. A number of companies, such as Akamai, Mirror Image, and XCache, help providers utilize distributed storage of content across various locations on the Internet. By managing "intelligent" content delivery (assessing the fastest route on the Internet for content access) and placing content servers closer to end users inside an ISP's network (to minimize the distance content must be delivered), these companies help reduce the demand for Internet connectivity services. The result of these content delivery technologies is to provide alternatives to the backbones for the bulk of content delivery, thereby reducing demand for transit services and putting continued downward pressure on pricing**.**

26. *Ease of changing providers.* Finally, all Internet customers benefit from advances in technologies and commercial arrangements that lower the cost of switching providers and thereby put additional competitive pressure on all backbone operators. The advent of dynamic addressing via Dynamic Host Configuration Protocol (DHCP), coupled with Network Address Translation (NAT) has made it easier for customers to manage such a switch. On an IP network, each terminal connection is allocated a unique IP address. In the past, Internet backbone operators allocated these static IP addresses to their customers, which made changing providers difficult because it also meant changing IP addresses for all managed connections. The combination of DHCP and NAT technologies enables a customer to use one set of IP addresses for internal traffic and a second set of addresses for external traffic. In operation, the internal address on the customer side is assigned by the customer, and the external address is assigned by the Internet backbone operator. Since the end user never sees the external address, the only change a backbone customer must make when switching providers is the internal to external address mapping in the DHCP server. The concept is

analogous to number portability, where customers have more flexibility to switch telephone service providers since they do not need to worry about losing their unique telephone number. The easier it is for the customers to switch between backbones, the more difficult it is for any backbone operator, including the merged entity, to profit by unilaterally increasing transit prices or degrading service.

27. *Multi-homing.* A business arrangement that facilitates switching among backbones is multi-homing, which occurs when purchasers of dedicated Internet connectivity (including both ISPs and retail customers) connect to more than one provider. While multi-homing is primarily used to provide redundancy and perform load balancing, it also reduces the ability of any backbone operator to charge rates above competitive levels. Since a multi-homed customer is already connected to multiple providers, it would face little or no switching costs if it shifted a portion of its traffic from one backbone to another backbone to which the customer is already connected. In order to facilitate multi-homing, one company, Internap, connects to multiple backbones and offers a multi-homed solution to its clients. As a result, Internap has been slowly climbing TeleGeography's list of top backbone operators ranked by AS connections, and is now in sixth position as seen in Exhibit 7. (Internap was ranked 45 in 1999.)

28. *Internet Exchange Providers* In addition to competitive pressures from technological innovation, there also have been changes over the past years in the physical location of the points at which Internet backbones interconnect with their customers, as described in the First Kende Declaration. Specifically, there has been an increase in the use of Internet Exchange Providers (IXPs), such as those owned by Equinix and Switch and Data's PAIX exchanges. These exchanges provide an efficient means for interconnection between all types of operators, including content providers and ISPs as well as other backbones. While these exchanges lower costs for backbones, they also lower costs that customers (*i.e.*, ISPs, content providers, and other types of customers) incur to switch between backbones. Thus, backbone customers can effectively bargain with the various backbone operators located at an IXP, thereby increasing the competitive pressures faced by those suppliers. This is yet another marketplace constraint that all backbones, including the merged company, will continue to face.

29. *Conclusion.* A number of different trends are increasing competitive pressure on operators of Internet backbones. These trends include increases in fiber capacity that facilitate competitive entry and expansion by new and smaller firms, and changes in technology and commercial arrangements that make it easy for backbone customers not only to reduce their demand for Internet connectivity, but also to switch between suppliers and to bargain down prices. These trends have placed downward pressure on transit prices and total revenues that has affected the entire sector. These trends also show why the merged entity could not successfully undertake a strategy of degrading peering connections, terminating peering arrangements, or otherwise raising rivals costs as alleged by commenters – backbone customers would quickly leverage technology and new commercial arrangements to begin to self- provide services and switch backbones in response to any degradation of quality and/or unilateral increase in prices higher prices.

4 Conclusion

30. In conclusion, with or without the combination of Verizon and MCI, MCI's Internet backbone will carry only a relatively small percentage of Internet traffic, and it will face substantial and increasing competition from a number of companies with backbones comparable to MCI's backbone. During the past few years, technology has led to increases in the supply of Internet connectivity services and also enabled both wholesale and business backbone customers to reduce their reliance on such services. At the same time, new commercial arrangements, such as secondary peering, also decrease the use of large backbones to deliver Internet traffic. The result has been a decrease in the relative demand for services provided over extensive Internet backbones, along with steadily decreasing transit prices and revenues for backbone operators. Thus, there is simply no plausible basis for a claim that the proposed transaction would lead to any reduction in competition among operators of Internet backbones.

Annex A: RHK Traffic and IDC Revenue Figures

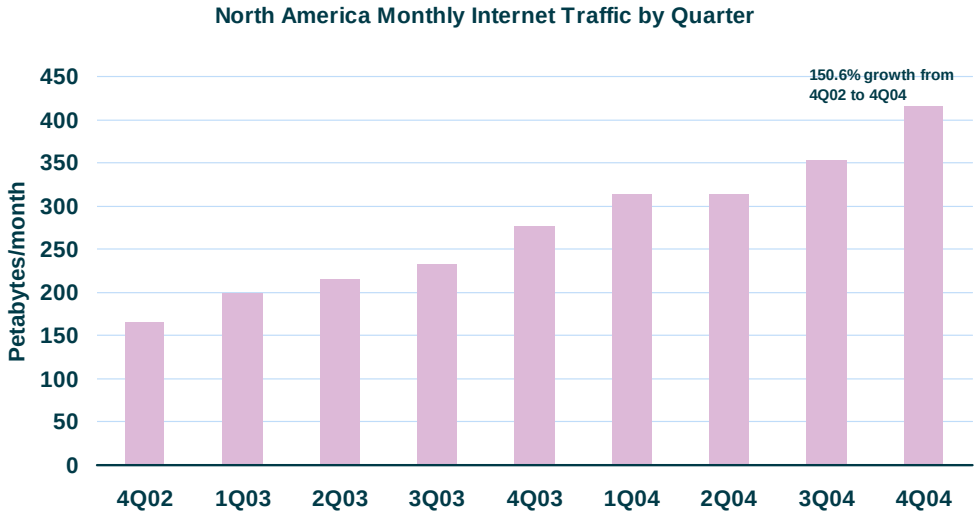

Exhibit 1: *North America Monthly Internet Traffic by Quarter [Source: RHK]*

Carrier	*4Q03*[23]	*1Q04*	*2Q04*	*3Q04*	*4Q04*
A	34.29	37.19	38.66	44.54	52.33
B	32.72	36.48	36.50	41.41	51.31
C	32.65	34.11	35.60	36.75	45.89
MCI	23.03	24.71	25.81	26.86	30.87
E	16.17	18.04	18.89	21.08	25.46
F	15.89	16.33	17.78	17.47	19.33
G	14.54	16.67	15.04	14.93	15.19
Top 7 Total	169.29	183.53	188.28	203.04	240.38
Total	276.00	313.00	313.00	353.00	416.00
MCI share of total traffic	**8.3%**	**7.9%**	**8.2%**	**7.6%**	**7.4%**

Exhibit 2: *Top 7 Provider Traffic in Petabytes per Month [Source: RHK]*

23 The six unidentified companies in 4Q03 are not necessarily the same as those tracked in 2004, but cannot be revealed by RHK for reasons of confidentiality.

2000		*2001*		*2002*		*2003*	
Company	*Revenues*	*Company*	*Revenues*	*Company*	*Revenues*	*Company*	*Revenues*
UUNet (MCI)	2134.0	WorldCom	1535.6	MCI	1389.3	Level3	1040.2
Genuity	617.7	Genuity	579.7	Level3	533.1	MCI	1002.8
Sprint	453.0	Sprint	521.6	Sprint	524.7	Sprint	506.0
Level3	267.2	Covad	318.8	Genuity	472.0	Verizon	341.8
Qwest	225.0	Level3	309.8	Covad	326.7	SBC	277.0
AT&T	210.0	Qwest	257.6	Verizon	285.2	BellSouth	270.0
C&W	186.9	AT&T	225.0	AT&T	253.1	AT&T	257.6
McLeod	145.23	ICG	177.7	BellSouth	247.8	Qwest	252.9
XO	75.5	Focal	174.0	SBC	211.0	Covad	236.0
Williams	71.6	C&W	167.8	Qwest	202.1	ICG	202.7
Top 10	4386.1	Top 10	4267.6	Top 10	4445.03	Top 10	4386.9
Total	4897.3	Total	5071.5	Total	5175.28	Total	4871.5
Top 10 % of total	89.56%	Top 10 % of total	84.15%	Top 10 % of total	85.89%	Top 10 % of total	90.05

Exhibit 3: *Top 10 Wholesale IP Backbone Revenues, 2000-03 [Source: IDC]*

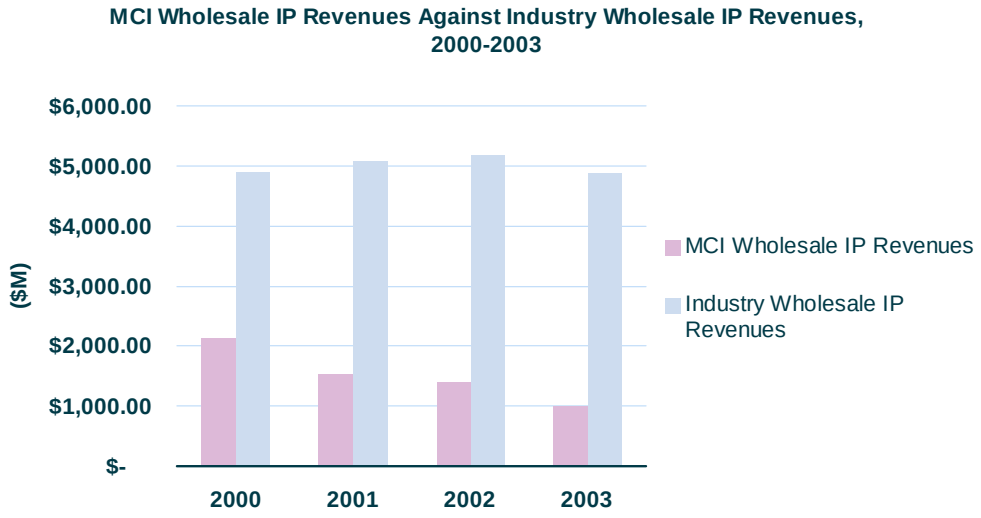

Exhibit 4: *MCI Wholesale IP Revenues vs. Industry Wholesale IP Revenues, 2000-03 [Source: IDC]*

Analysys

2000		*2001*		*2002*		*2003*	
Company	*Revenues*	*Company*	*Revenues*	*Company*	*Revenues*	*Company*	*Revenues*
UUNet (MCI)	2425.0	WorldCom	2700.0	MCI	1453.8	MCI	1196.1
AT&T	870.0	AT&T	990.0	AT&T	1012.5	AT&T	1085.6
Sprint	374.6	Sprint	431.3	Sprint	433.9	Sprint	418.4
Genuity	336.0	Verizon	415.0	AOL	381.5	AOL	353.1
PSInet	239.6	SBC	392.3	Genuity	266.4	SBC	313.7
C&W	191.3	Genuity	335.5	Verizon	243.6	BellSouth	300.0
Verio	150.0	Qwest	298.8	SBC	239.0	Verizon	291.9
XO	97.4	BellSouth	233.8	Qwest	234.4	Qwest	168.6
Qwest	67.5	Savvis	179.6	BellSouth	220.8	Comcast	166.2
InterNAP	65.9	C&W	172.4	XO	189.0	Adelphia	107.6
Top 10	4817.5	Top 10	6148.8	Top 10	4675.0	Top 10	4401.2
Total	7282.1	Total	9912.0	Total	8374.4	Total	5829.9
Top 10 % of total	66.16%	Top 10 % of total	62.03%	Top 10 % of total	55.82%	Top 10 % of total	75.49%

Exhibit 5: *Top 10 Business IP Backbone Revenues, 2000-03 [Source: IDC]*

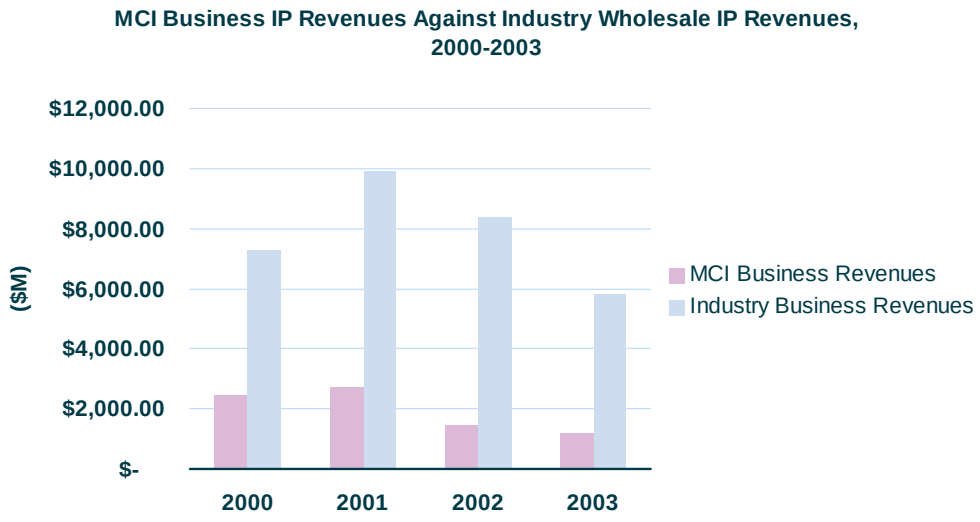

Exhibit 6: *MCI Business IP Revenues vs. Business Wholesale IP Revenues, 2000-03 [Source: IDC]*

Annex B: TeleGeography Connectivity Rankings

Provider	Rank		Delta in rank	Connections		Connections Growth	%Change in Share of Total Conn.
	2002	2004	2002 -> 2004	2002	2004	2002 - 2004	2002 - 2004
MCI	1	1	-	3212	3034	-5.5%	-4.6%
Sprint	2	3	▼ 1	1603	1842	14.9%	-0.3%
AT&T	3	2	▲ 1	1423	1966	38.2%	1.8%
Cable & Wireless/Savvis	4	6	▼ 2	1118	1023	-8.4%	-1.8%
Level 3	5	4	▲ 1	1009	1167	15.6%	-0.1%
Qwest	6	5	▲ 1	973	1074	10.4%	-0.4%
AboveNet	7	10	▼ 3	569	590	3.6%	-0.5%
Global Crossing	8	9	▼ 1	551	616	11.9%	-0.2%
NTT Communications	9	8	▲ 1	475	636	34.0%	0.5%
InterNAP	10	7	▼ 3	437	668	52.9%	0.9%
Globix	11	12	▼ 1	411	530	28.7%	0.3%
KPN	12	20	▼ 8	406	357	-11.9%	-0.7%
Teleglobe	13	30	▼ 17	391	244	-37.6%	-1.3%
Tiscali	14	24	▼ 10	335	295	-12.0%	-0.6%
XO Communications	15	16	▼ 1	329	441	34.2%	0.3%
Cogent	23	11	▲ 12	196	544	178.0%	1.9%
SBC	18	13	▲ 5	243	514	111.1%	1.4%
Time Warner Telecom	21	15	▲ 6	207	452	117.8%	1.3%
Swisscom	39	14	▲ 25	87	477	448.3%	2.3%

Exhibit 7: *Comparison of connections growth and market share for top 15 backbones in 2002 and 2004 [Source: TeleGeography Research, Global Internet Geography, 2004]*

Note: Savvis purchased the Cable & Wireless backbone in 2004, and the number of AS connections for the Savvis/C&W line in the chart is inclusive of both backbones for that year

Annex C: IP Transit prices

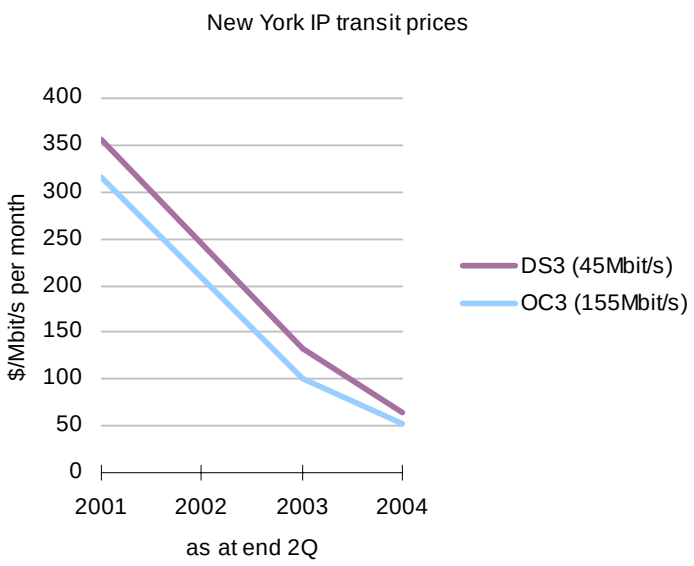

Exhibit 8:

New York IP transit prices [Source: BandX, TeleGeography, 2001 – 2004]

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on May 13, 2005.

Michael Kende