

Before the
Federal Communications Commission
Washington, D.C. 20554

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Federal Communications Commission
Office of the Secretary

In the Matter of)
)
Global Crossing Limited and Level 3)
Communications, Inc., Application for Consent)
to Transfer Control of Authority to Provide)
Global Facilities-Based and Global Resale)
International Telecommunications Services and)
of Domestic Common Carrier Transmission)
Lines, Pursuant to Section 214 of the)
Communications Act, as Amended)
)
Level 3 Communications, Inc., Petition for)
Declaratory Ruling Under Section 310(b)(4))
Of the Communications Act of 1934, as)
Amended)

IB Docket No. 11-78

COMMENTS OF XO COMMUNICATIONS, LLC

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SUMMARY

The Application and Petition filed by Level 3 Communications, Inc. (“Level 3”) and Global Crossing Limited (“GCL”) (jointly, the “Applicants”) involves the proposed combination of various communications assets. Of these, XO Communications, LLC (“XO”) contends that the horizontal combination of the Tier 1 Internet backbone assets of the Applicants raises the greatest concern. By bringing together the two leading Internet backbone providers (“IBPs”), the transaction will create a “global colossus” that will dominate the market, leading to significantly higher prices and decreased service quality and innovation for all other IBPs and their customers. The Commission, along with the Department of Justice, have a history of carefully scrutinizing the competitive effects (and, for the Commission, public interest implications) of proposed transactions in the Tier 1 Internet backbone market (“Tier 1 Market”) – and either rejecting or conditioning them – because of concerns about market dominance. It should take similar action in regard to this Application and Petition.

One of the most important markets within the Internet eco-system is the Tier 1 Market, where IBPs offer high-capacity, long-haul facilities and exchange traffic directly with each other (peered traffic) or with Internet Service Providers, enterprise customers, content delivery networks, and other customers (transit traffic). Today, the Tier 1 Market, although characterized by significant barriers to entry, is generally considered competitive, where no firm’s share is disproportionately greater than the others. In that market, the Applicants are direct competitors and the two leading firms, both with substantial market shares. Thus, the transaction involves the horizontal combination of assets of the two leading firms in the market, greatly increasing industry concentration – a concern that is further heightened because of the industry’s critical network effects. Post-transaction the Tier 1 Market would be

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transformed from rough equality into one where the leading provider – the combined Level 3/GCL – would have substantial market power and dominate other IBPs and their customers. In his White Paper attached to these comments, Professor William Rogerson supports this conclusion:

[T]he effect of the transaction will be to create a dominant firm that is disproportionately large relative to other firms in the market and will thus create a danger of tipping. This reduction in competition between IBPs will result in higher prices and reduced innovation.

These concerns become even greater because having a fully competitive Tier 1 Market is fundamental to the health and well-being of the Internet. End-users would be in particular jeopardy as the combined Level 3/GCL threatens to cut off other IBPs and their customers if they do not pay increased fees to exchange traffic.

In these comments, XO analyzes the Tier 1 Market in depth and demonstrates, relying on the analysis of Professor Rogerson, Declarations by its own personnel (Randolph Nicklas, XO Chief Technology Officer, and Marcellus Nixon, XO Director of IP Planning), and other sources, that the proposed combination of Level 3 and GCL would result in substantial harm to competition in that market. XO also discusses how this harm would filter down to ISPs and end-users. In sum, XO demonstrates herein that if the proposed combination is permitted, the new firm will be disproportionately (3 times) larger than all other firms in the market, which, given the network effects in this market, creates a real danger of the market “tipping” entirely in its direction.

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COMMENTS OF XO COMMUNICATIONS, LLC

Pursuant to the Public Notice issued by the Federal Communications Commission ("FCC" or "Commission") in the above-captioned proceeding on June 9, 2011,¹ XO Communications, LLC ("XO"), by their attorneys, hereby files its comments on the applications filed by Global Crossing Limited ("GCL") and Level 3 Communications, Inc. ("Level 3") (jointly, the "Applicants") for consent to transfer control, pursuant to Sections 214 and 310(d) of the Communications Act, as amended (the "Act")² and Sections

¹ Application Filed for the Transfer of Control of Global Crossing Limited to Level 3 Communications, Inc., Pleading Cycle Established, DA 11-1019 (rel. June 9, 2011). Specific file numbers related to the proposed transaction are hereby incorporated by reference.

² 47 U.S.C. §§ 214, 310(d).

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34 through 39 of the Cable Landing License Act,³ of various subsidiaries of GCL holding domestic and international Section 214 authorizations, cable landing licenses, and satellite earth station licenses to Level 3. XO also comments on the petition filed by Level 3 pursuant to Section 310(b)(4), requesting a declaratory ruling that it would serve the public interest to permit indirect foreign ownership of certain Level 3 subsidiaries holding common carrier wireless and earth station licenses in excess of the 25 percent foreign ownership benchmark.

XO provides communications services domestically and internationally over extensive wireline and wireless facilities it owns directly and leases either on a short or long-term basis. Of greatest relevance to this proceeding, XO operates a fully peered Tier 1 IP (Internet) network with more than 100 private and public peering relationships. It exchanges traffic with peers in ten metropolitan areas in the United States and in 4 locations in Europe and 1 in Asia.⁴ As such, it is highly knowledgeable about that market, and, in these comments, it discusses in depth the competitive and other public interest harms that will arise if the Commission approves the proposed combination of Level 3 and GCL.

I. INTRODUCTION

The Internet has evolved from a government created and relatively limited domestic network into a series of interconnected high-performance private networks providing global

³ 47 U.S.C. §§ 34-39.

⁴ See attached Declaration of Marcellus Nixon, Director of IP Network Planning, XO Communications, LLC, ¶¶ 5-6 (“Nixon Declaration”) and attached Declaration of Randolph Nicklas, Chief Technology Officer, XO Communications, LLC, ¶ 4 (“Nicklas Declaration”).

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reach that are crucial to commerce, social interaction, and political discourse. Within that infrastructure, firms offer services in different product and geographic markets and have developed a variety of relationships enabling the exchange of traffic among them. One of the most important markets⁵ within the Internet eco-system is the Tier 1 Internet backbone market (“Tier 1 Market”), where providers (Internet Backbone providers (“IBPs”)) offer high-capacity, long-haul facilities and exchange traffic directly with each other (“peered traffic”⁶) or with Internet Service Providers (“ISPs”), enterprise customers, content delivery networks (“CDNs”), and other customers (“transit traffic”⁷). Today, the Tier 1 Market, although characterized by significant barriers to entry, is generally considered competitive, where no firm’s share is disproportionately greater than the others. In that market, the Applicants are direct competitors and the two leading firms, both with substantial market shares. As recently characterized by a senior officer of GCL, “Renesys [a business consulting firm], has posted its annual year-end rankings of global Internet providers. Interestingly, Level 3 remains the

⁵ Another key market in which the Applicants participate is the local or regional broadband Internet access market, where ISPs provide connectivity to end-users and hand-off Internet traffic to other providers. However, their share of the broadband Internet access market prior to the proposed transaction is not that significant and will not change perceptibly post-transaction.

⁶ A “peering” relationship is between two parties for the purpose of each party exchanging traffic only for routes on the other party’s network and not to forward traffic to routes on another party’s network. Peering may be on a settlement-free (no cost) basis or on a paid basis.

⁷ A “transit” relationship is between two parties for the purpose of one party obtaining IP connectivity to the other party so that its traffic can be carried to a specified set of remote locations on the Internet or the entire Internet. The first party pays for such connectivity and the ability to exchange traffic.

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undisputed global leader, Global Crossing is second, advancing ahead of Sprint.”⁸ Thus, the transaction involves the horizontal combination of assets of the two leading firms in the market, greatly increasing industry concentration – a concern that is further heightened because of the industry’s critical network effects. Perhaps Renesys best summed up the competitive concern with the proposed combination when it concluded that the new entity, “Level Crossing,” would be a “global colossus.”⁹ In other words, post-transaction the Tier 1 Market would be transformed from rough equality into one where the leading provider – “Level Crossing” – would have substantial market power and dominate other IBPs and their customers. In his White Paper attached to these comments, Professor William Rogerson supports this conclusion:

[T]he effect of the transaction will be to create a dominant firm that is disproportionately large relative to other firms in the market and will thus create a danger of tipping. This reduction in competition between IBPs will result in higher prices and reduced innovation.¹⁰

These concerns become even greater because having a fully competitive Tier 1 Market is fundamental to the health and well-being of the Internet. End-users would be in particular jeopardy as the new “Level Crossing” threatens to cut off other IBPs and their customers if they do not pay increased fees to exchange traffic.

⁸ Global Crossing Blog Central, Paul Kouroupas, Security Officer & Vice President Regulatory Affairs, Global Crossing Limited, Jan. 12, 2011, available at: <http://blogs.globalcrossing.com/?q=category/tags/level-3>.

⁹ Renesys Blog, Level Crossing, Apr. 14, 2011, available at: <http://www.renesys.com/blog/2011/04/level-crossing.shtml> (“Renesys Blog”).

¹⁰ *Competitive Effects of the Proposed Level 3 Communications-Global Crossing Limited Transaction* at 3-4, White Paper by William P. Rogerson, Professor of Economics, Northwestern University, attached to these comments (“Rogerson Paper”).

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In these comments, XO analyzes the Tier 1 Market in depth and demonstrates, relying on the analysis of Professor Rogerson, Declarations by its own personnel (Randolph Nicklas, XO Chief Technology Officer, and Marcellus Nixon, XO Director of IP Planning), and other sources, that the proposed combination of Level 3 and GCL would result in substantial harm to competition in that market. XO also discusses how this harm would filter down to ISPs and end-users. In sum, XO demonstrates herein that if the proposed combination is permitted, the new firm will be disproportionately (3 times) larger than all other firms in the market, which, given the network effects in this market, creates a real danger of the market “tipping” entirely in its direction.

II. STANDARD OF REVIEW

Pursuant to Sections 214(a) and 310(d) of the Act, and Sections 34 through 39 of the Cable Landing License Act,¹¹ the Commission may not approve the proposed transfer of control of the GCL subsidiaries holding FCC licenses and authorizations to Level 3 unless it is persuaded that the proposed transaction will serve the public interest, convenience and

¹¹ The Cable Landing License Act provides that approval of a license application may be granted “upon such terms as shall be necessary to assure just and reasonable rates and service.” 47 U.S.C. § 35. The Commission does not conduct a separate public interest analysis under this statute. *See, e.g., SBC Communications, Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 FCC Rcd 18290, 18300 n.59 (2005) (“*SBC-AT&T Order*”); *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 FCC Rcd 18433, 18442 n.58 (2005) (“*Verizon-MCI Order*”); *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) (“*WorldCom-MCI Order*”).

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necessity.¹² Applicants bear the burden of proving, by a preponderance of the evidence, that the proposed transaction serves the public interest.¹³ The Commission’s review of a proposed merger under the public interest standard, while informed by consideration of the competition policies underlying the Clayton Act, necessarily extends beyond the traditional scope of antitrust review.¹⁴

The likely effect of a proposed merger on the development of competition in relevant markets is the primary touchstone by which proposed mergers are judged. In performing its review, the Commission must consider whether the merger will “accelerate the decline of market power by dominant firms” in the relevant communications market and its “effect on future competition.”¹⁵ To find that a merger is in the public interest, the Commission has

¹² 47 U.S.C. §§ 214(a), 310(d). Section 310(d) of the Act, 47 U.S.C. § 310(d), requires the Commission consider applications for transfer of Title III licenses under the same standard as if the proposed transferee were applying for licenses directly under section 308 of the Act, 47 U.S.C. § 308. *See, e.g., AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, Memorandum Opinion and Order, 22 FCC Rcd 5662, 5672 (¶ 19) (2007) (“*AT&T-BellSouth Order*”).

¹³ *See, e.g., Applications filed by Qwest Communications International Inc. and CenturyTel, Inc. d/b/a CenturyLink for Consent to Transfer Control*, Memorandum Opinion and Order, 24 FCC Rcd 4194, 4199 (¶ 7) (2011) (“*CenturyLink-Qwest Order*”); *AT&T-BellSouth Order*, 22 FCC Rcd at 5672 (¶ 19).

¹⁴ *See, e.g., CenturyLink-Qwest Order*, 24 FCC Rcd at 4199-200 (¶ 9).

¹⁵ *See, e.g., CenturyLink-Qwest Order*, 24 FCC Rcd at 4199-200 (¶ 9); *Applications of Cellco Partnership d/b/a Verizon Wireless and Atlantis Holdings LLC for Consent to Transfer Control of Licenses, Authorizations, and Spectrum Manager and De Facto Transfer Leasing Arrangements and Petition for Declaratory Ruling that the Transaction is Consistent with Section 310(b)(4) of the Communications Act*, Memorandum Opinion and Order and Declaratory Ruling, 23 FCC Rcd 17444, 17462 (¶ 28) (2008) (“*Verizon Wireless-Alltel Order*”); *Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corp. For Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 19 FCC Rcd 21522, 21544-45 (¶ 42) (2004) (“*Cingular-AT&T Wireless Merger Order*”).

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emphasized that it “must be convinced that it will enhance competition.”¹⁶ A merger will be pro-competitive if the “harms to competition are outweighed by the benefits that enhance competition.”¹⁷ Applicants carry the burden of showing that the proposed merger will not eliminate potentially significant sources of competition.¹⁸ The Commission has observed that “[w]hen facing a changing regulatory environment that reduces barriers to entry, firms that otherwise would compete directly may, as one possible strategic response, seek to cooperate through merger.”¹⁹ Consequently, Applicants must provide that, on balance, the merger will “enhance and promote, rather than eliminate or retard, competition.”²⁰ If Applicants cannot carry this burden, their Application must be denied.²¹

A common circumstance is that the same consequences of a proposed merger that may be beneficial in one sense will be harmful in another. Even if Applicants could show that combining assets may allow the merged entity to reduce transaction costs or introduce new products, the combination may also enhance market power, barriers to entry by potential competitors, or opportunities to disadvantage rivals in anti-competitive ways.²² Applicants bear the burden of overcoming such anti-competitive effects. In considering whether Applicants have made such a showing, the Commission has stated that the unilateral and

¹⁶ *Applications of NYNEX Corp. and Bell Atlantic Corp. For Consent to Transfer Control of NYNEX Corporation and Its Subsidiaries*, Memorandum Opinion and Order, 12 FCC Rcd 19985, 19987 (¶ 2) (1997) (“*NYNEX-Bell Atlantic Merger Order*”).

¹⁷ *Id.*

¹⁸ *Id.*, ¶ 3.

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*, ¶ 2.

²² *Cingular-AT&T Wireless Merger Order*, 19 FCC Rcd at 21544-45 (¶ 42).

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coordinated effects of a proposed merger are mitigated by competitive forces only to the extent that barriers to entry or expansion are sufficiently low that competitors would “expand or enter with sufficient strength, likelihood and timeliness to render unprofitable an attempted exercise of market power resulting from the merger.”²³ It is not enough for Applicants to show that the anti-competitive effects of a merger are counterbalanced in part by potential pro-competitive effects; their burden is to show that their transaction has the ultimate effect of “affirmatively advancing competition throughout the region.”²⁴

In determining whether a proposed transaction will serve the public interest, convenience and necessity under Sections 214 and 310(d) of the Act, the Commission considers factors in addition to the competitive impact of the transaction. Most notably, when the transaction involves foreign investment, the Commission will consider any national security, law enforcement, foreign policy, or trade concerns presented by the transaction.²⁵ In addition, the FCC will consider any national security, law enforcement, foreign policy, or trade concerns raised by the Executive Branch. In assessing the public interest impact of any national security, law enforcement, foreign policy, or trade concerns, the Commission considers the record and accords the appropriate level of deference to Executive Branch expertise on these issues.²⁶ National security, law enforcement, foreign policy, or trade

²³ *NYNEX-Bell Atlantic Merger Order*, 12 FCC Rcd at 19991-92 (¶ 11).

²⁴ *Id.*, ¶ 14.

²⁵ *See Rules and Policies on Foreign Participation in the U.S. Telecommunications Market*, Report and Order and Order on Reconsideration, 12 FCC Rcd 23891, 23918-21, ¶¶ 59-66 (1997) (“*Foreign Participation Order*”).

²⁶ *Id.*; see *Applications of Cellco Partnership d/b/a Verizon Wireless and AT&T, Inc. For Consent to Assign or Transfer Control of Licenses and Authorizations and Request for Declaratory Ruling on Foreign Ownership*, Memorandum Opinion and Order and

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concerns are also relevant to the Commission’s decision to grant or deny a petition for declaratory ruling under Section 310(b)(4) of the Act.²⁷

Finally, as a pre-condition to approval of any proposed merger, Section 214(c) of the Act authorizes the Commission to impose “such terms and conditions as in its judgment the public convenience and necessity may require.”²⁸ This enables the Commission to impose and enforce transaction-specific conditions on its approval of any such transaction.²⁹ In using this broad authority, the Commission has generally imposed conditions to remedy specific harms or confirm specific benefits likely to arise from transactions and that are related to the Commission’s responsibilities under the Act and related statutes.³⁰

Declaratory Ruling, 25 FCC Rcd 10985, ¶ 93, n. 293 (2010) (“*Verizon Wireless-AT&T Order*”), citing *Foreign Participation Order* at 23918-21.

²⁷

Id.

²⁸

47 U.S.C. § 214(c); see also *CenturyLink-Qwest Order*, 24 FCC Rcd 4200-201 (¶ 10); *Verizon Wireless-Alltel Order*, 23 FCC Rcd at 17463 (¶ 29); *Applications for Consent to the Transfer of Control of Licenses, XM Satellite Radio Holdings, Inc., Transferor, To Sirius Satellite Radio Inc., Transferee, MB Docket No. 07-57*, Memorandum Opinion and Order, 23 FCC Rcd 12348, 12366 (¶ 33) (2008) (“*XM-Sirius Order*”); *AT&T-BellSouth Order*, 22 FCC Rcd at 5674 (¶ 22).

²⁹

See, e.g., *CenturyLink-Qwest Order*, 24 FCC Rcd 4200-201 (¶ 10); *Cingular-AT&T Wireless Merger Order*, 19 FCC Rcd at 21545-46 (¶ 43) *Verizon Wireless-Alltel Order*, 23 FCC Rcd at 17463 (¶ 29); *XM-Sirius Order*, 23 FCC Rcd at 12366 (¶ 33); *AT&T-BellSouth Order*, 22 FCC Rcd at 5674 (¶ 22); see also *Schurz Communications, Inc. v. FCC*, 982 F.2d 1043, 1049 (7th Cir. 1992) (discussing Commission’s authority to trade off reduction in competition for increase in diversity in enforcing public interest standard).

³⁰

See, e.g., *CenturyLink-Qwest Order*, 24 FCC Rcd 4200-201 (¶ 10); *Verizon Wireless-Alltel Order*, 23 FCC Rcd at 17463 (¶ 29); *XM-Sirius Order*, 23 FCC Rcd at 12366 (¶ 33); *AT&T-BellSouth Order*, 22 FCC Rcd at 5674 (¶ 22).

III. THE PROPOSED COMBINATION OF INTERNET BACKBONE NETWORKS AND OPERATIONS WOULD PRODUCE SIGNIFICANT COMPETITIVE HARMS IN THE TIER 1 INTERNET BACKBONE MARKET

A. Introduction to the Internet Backbone Market and the Market Participants

Over the past 15 years, the use of the Internet has exploded, both in terms of users connected and the traffic carried. Today, in the United States, there are approximately 75 million fixed Internet subscriptions (in contrast to less than 10 million a decade ago), representing over 60% of the potential demand.³¹ With the evolution of smartphones, wireless Internet access too has exploded, with revenues rising from virtually zero a decade ago to approximately \$50 billion today.³² The same growth trends are present in most markets around the world. The growth in individuals accessing the Internet has been accompanied by even greater growth in Internet traffic, especially with subscribers accessing greater amounts of video content. In the United States alone, Internet backbone traffic has grown from less than 100,000 terabytes per month in 2000 to more than 2 million terabytes per month today.³³ This level of connectivity and usage is a testament to the importance of the Internet for commerce, social interaction, and political discourse.

The dramatic growth in the Internet is built upon and due to a large number of primarily commercially owned and operated interconnected networks exchanging traffic

³¹ Overview of recent changes in the IP interconnection ecosystem, analysys mason, May 2001, at 9, available at: http://www.analysysmason.com/About-Us/News/Insight/Insight_Internet_connection_Jun2011/ (“analysys report”).

³² CTIA, Wireless Quick Fact, available at: http://www.ctia.org/media/industry_info/index.cfm/AID/10323.

³³ analysys report, at 6.

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through peering (directly connected to all other networks) or transiting (indirectly connected) agreements. There is no central organizing authority – just service provider networks of different types and sizes entering into agreements to exchange traffic.³⁴ Each network is called an autonomous system (“AS”) and has a unique address with relevant routing information.³⁵

This intertwined network structure has evolved from being relatively hierarchical into a more complex framework to meet the expansive and burgeoning demands of end-users and content and applications providers. As noted in the attached Declaration by XO’s Director of IP Network Planning, “the Internet backbone market has changed considerably, primarily due to the growth and evolution of CDNs...[and] an increase in traffic exchange with and among secondary tier IBPs and by peering among ISPs.”³⁶ Yet, he concludes, “Tier 1 IBPs are required and necessary to enable traffic to be exchanged with other Internet backbone networks and their customers throughout the world.”³⁷ They alone ensure all AS’s have connectivity to all other AS’s.³⁸ In other words, the top level structure of the Internet remains intact and continues to be relied upon for critical global connectivity of the Internet. As noted above and as a testament of the importance of the Tier 1 Market, backbone traffic has grown dramatically. For XO itself, peering traffic has been increasing significantly, doubling annually for the past 4 years.³⁹ End-users still utilize their ISPs to access the Internet; ISPs

³⁴ See, Nicklas Declaration, ¶ 5, where he calls the Internet “a confederation of service provider networks that choose to exchange traffic.”

³⁵ *Id.*

³⁶ Nixon Declaration, ¶¶ 16-17.

³⁷ *Id.*, ¶ 17.

³⁸ Nicklas Declaration, ¶ 7.

³⁹ Nixon Declaration, ¶ 8.

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generally transit traffic to IBPs; and, IBPs peer among themselves, directly exchanging traffic without any intermediate provider.

In particular, despite the advent of private and secondary peering, IBPs continue to play an essential role in the Internet eco-system. They alone have national and global connectivity. Because of their direct connections, transmissions over IBP networks provide higher-performance and ensure greater quality. IBPs have and continue to deploy enormous amounts of bandwidth, which can be used by ISPs, content providers, and CDNs.⁴⁰

IBPs can be divided among the largest providers (Tier 1), which have the most extensive and capable networks, serving for instance all Internet exchange points in the United States. They also have the most routes directly connected to their networks, perhaps the most critical factor in determining leverage. The Tier 1 IBPs as a rule exchange traffic on a settlement-free basis. IBPs with smaller networks pay for peering.

⁴⁰ The analysis report (at 3) discusses new interconnection developments among entities in the Internet eco-system. One development is the growing importance of Internet Exchange Points (“IXPs”), common locations around the world where entities can exchange traffic. The report finds that IXPs benefit peers and transit customers by improving the quality of service and reducing traffic carry costs but can marginalize IBPs because they enable their customers to interconnect directly. A second development is that ISPs and content providers “route around” IBPs (secondary peering arrangements) and, as a result, IBPs have adapted by selling only “partial transit.” Peering relationships too have evolved. XO agrees these developments are occurring. They, however, do not alter the continued importance of IBPs and the Tier 1 Market and thus should be considered complementary. CDNs, for instance, may have some direct peering arrangements, but they are limited, and CDNs still rely on IBPs to transmit a large majority of their traffic. XO knows this first-hand since CDNs are among XO’s largest transit customers. (Nixon Declaration, ¶ 7) In sum, without the geographic footprint that IBPs have and their direct connections, ISPs and CDNs can re-route or otherwise interconnect but only with limited success.

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Peering and transiting arrangements are handled privately without government oversight, except, as discussed below, when mergers occur that have significant implications for competition. Peering agreements set forth conditions about infrastructure and routing requirements, including the need to have comparable traffic volumes and ratios and network coverage. Agreements are rigorously enforced, and an IBP will have to pay for peering (and possibly become de-peered) if it does not continue to fulfill the conditions.⁴¹

IBPs may post or otherwise notify other providers about the specific terms and conditions of their peering and transiting policies. However, practices vary, which in XO's experience has an impact on the market.⁴² For instance, the specific terms of AT&T's peering policy can be found on its website.⁴³ This enables an IBP or potential IBP to understand precisely what it needs to do to remain or become a settlement-free peer. GCL, while not posting a peering policy, does make a specific policy available upon request. In contrast, Level 3's posted peering policy is only a general statement without specific terms.⁴⁴ In essence, it is an invitation to negotiate but without any knowledge of the prerequisites to become a settlement-free peer. XO has asked Level 3 to provide a specific peering policy but has never received one.⁴⁵ As a result, it is "difficult to understand and meet the requirements to peer with Level 3" and it "leads to requirements changing without notice and being imposed arbitrarily."⁴⁶

⁴¹ Nixon Declaration, ¶ 9.

⁴² XO's peering policy is available at: <http://www.xo.com/peering>.

⁴³ See, <http://www.corp.att.com/peering/>.

⁴⁴ See, <http://www.level3.com/en/Products-and-Services/data-and-internet/internet-services/IP-Traffic-Exchange.aspx>.

⁴⁵ Nixon Declaration, ¶ 15.

⁴⁶ *Id.*

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Disputes about whether two IBPs should continue to exchange traffic on a settlement-free basis occur, largely when the conditions in peering policy are not met and especially as one IBP gains leverage over another because of network effects. That is, the key determinant in a peering battle is whose customers, the entities connected to the IBP, get harmed more because they cannot reach customers on the other network. Eventually, the Tier 1 Market can reach a “tipping point” whereby an IBP has obtained so much market power because it has captured a sufficient number of unique customers to enable it to dictate terms to all or virtually all other IBPs (and raise rates for transit customers as well). XO elaborates on this issue of market power below as it discusses the harms resulting from the proposed combination.

Level 3 and GCL are both Tier 1 peers. So too are Sprint, NTT, TiNet, AT&T, and Verizon. XO also is a Tier 1 peer, although on rare occasion it pays to exchange traffic.

Level 3 and GCL are the #1 and #2 Tier 1 IBPs by a number of benchmarks. These two peers “carry more traffic on the Internet backbone that is ‘on-net’ than any of the other Tier 1 IBPs,” and they “are the two largest global transit providers.”⁴⁷ Moreover, this disparity in traffic carried by Level 3 and GCL, while significant globally, is even more pronounced in the U.S.⁴⁸ Further, by another benchmark – routes served – according to the consulting firm

⁴⁷ Nicklas Declaration, ¶ 10.

⁴⁸ *Id.*

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Renesys,⁴⁹ which ranks IBPs according to the number of Internet routes (globally) to which a provider connects directly – either by itself or with other IBPs – Level 3 has been the leading IBP since it began publishing data in 2008. It has connections to over 40% of the routes on the Internet. GCL also has been in the top tier, and this past year passed Sprint to become the number two provider with connections to over 30% of the routes. NTT, which primarily services Asian routes, connects to approximately 20% of the routes, as does Sprint. Most other IBPs serve fewer than 10% of the routes, and most of these are located in their home countries.

Finally, entry into the Tier 1 Market is “difficult, if not impossible.”⁵⁰ To become a Tier 1 IBP requires the ownership or control of a global network with enormous capacity and interconnected at key traffic exchange locations and extensive customer relationships which generate and receive traffic. As indicated above, Renesys has found that the same entities have been leading Tier 1 IBPs for years.⁵¹ Firms are especially hindered in becoming Tier 1 IBPs because current Tier 1 providers have no incentive to admit them to the club by providing settlement-free interconnection.⁵²

Two firms are often mentioned as having the potential to become a Tier 1 IBP: Google and Comcast. However, it does not appear that either will soon enter this select group.

⁴⁹ Renesys Blog. Renesys’ route (AS) methodology also involves a proprietary mechanism that weights routes. Its methodology is not related to traffic, which can vary tremendously, for instance, depending upon whether video or some other large file is being transmitted. It also is not related to revenues, which IBPs consider to be highly confidential.

⁵⁰ Nicklas Declaration, ¶ 9.

⁵¹ See, Nixon Declaration, ¶ 18 (“There has not been much change in the rankings by size of these top Tier 1 firms.”).

⁵² Nicklas Declaration, ¶ 9.

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Google, while building a global network, uses it “ for web acceleration – for caching content that will frequently be requested by a high number of Internet users at many locations.”⁵³ Comcast too is building an extensive network, but it is primarily a regional network. This means it lacks the necessary international traffic exchange nodes to become a Tier 1 peer.⁵⁴

B. Competitive Analysis

The proposed combination of Internet backbone assets of Level 3 and GCL is a horizontal combination of the two leading IBPs in the Tier 1 Market. In the past, the government has been highly concerned about such combinations, mandating divestitures and other remedies to preserve robust competition for the transmission of Internet traffic. XO submits that the Level 3-GCL transaction raises similar concerns and, as proposed by the Applicants, should not be found by the Commission to be in the public interest. In the following sections, XO analyzes the effects of this consolidation first by reviewing the many decisions of government agencies and the economic rationale employed in those decisions. XO then uses that economic rationale to demonstrate that the proposed combination is not in the public interest because it will produce a firm that will dominate the Tier 1 Market, significantly raising prices for transit customers and harming innovation.

1. Prior Decisions by the Commission and Department of Justice

While the government has refrained from imposing unnecessary regulation on the Tier 1 Market, the Commission and the Department of Justice (“DOJ”) have taken a firm stance in

⁵³ Nixon Declaration, ¶ 19.

⁵⁴ *Id.*

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a series of merger reviews against combinations that would harm competition in that market.

The following sections review those mergers, focusing particularly on the economic rationale used by the government agencies in their review.

a) WorldCom-MCI Merger

WorldCom, Inc.'s ("WorldCom's") acquisition of MCI Communications ("MCI") in 1998 marked the first time competition authorities had the opportunity to publicly investigate the competitiveness of the Tier 1 Market and how a merger would affect the industry. The economic theory developed in that case was later used by the government agencies in evaluating MCI WorldCom's proposed merger with Sprint and WorldCom's acquisition of Intermedia.

Facts

At the time of their proposed combination, MCI and WorldCom were the nation's two largest providers of Internet backbone service.⁵⁵ In addition, MCI was an ISP.⁵⁶ WorldCom owned three IBPs and a majority share in a fourth, and it also owned a number of the primary network access points where IBPs interconnect.⁵⁷

Issues of Concern

The investigation involved reviews by the FCC, the DOJ, 10 states and the European Commission ("EC").⁵⁸ While the U.S. and the EC⁵⁹ conducted independent investigations,

⁵⁵ Press Release, Dep't of Justice, Justice Department Clears WorldCom/MCI Merger After MCI Agrees to Sell Its Internet Business at 1, (July 15, 1998) ("*DOJ Press Release*"), available at: <http://www.justice.gov/opa/pr/1998/July/329at.html>.

⁵⁶ *WorldCom-MCI Order*, 13 FCC Rcd 18025, 18105 (¶ 143) (1998).

⁵⁷ *Id.*

⁵⁸ See *WorldCom-MCI Order*, 13 FCC Rcd 18025; *DOJ Press Release*; WorldCom/MCI, 1999 O.J. (L 116) 1 (The Commission of the European Communities, Commission Decision of 8 July 1998) ("*EC Decision*") available at:

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they coordinated their review.⁶⁰ The agencies also shared information with each other.⁶¹ The concern of the competition authorities was that without a complete divestiture of MCI's entire Internet backbone and retail operation, the resulting combined entity would have such a large share of the Tier 1 Market that it would have an incentive to disadvantage rival IBPs and impair competition.

The DOJ focused its investigation on the effect the combination would have had upon interconnection and access to the various networks that make up the Internet.⁶² It also examined whether the merger would give rise to market power through the powerful network effects that characterize the Internet.⁶³

The FCC sought to ensure that Internet services, which rely on telecommunications transmission capacity, “remain competitive, accessible and devoid of any entry barriers.”⁶⁴

[http://eur-](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1999:116:0001:0035:EN:PDF)

[lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1999:116:0001:0035:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1999:116:0001:0035:EN:PDF).

⁵⁹ The EC completed its investigation first. According to the EC, the combination would have created such a large IBP that it “could behave to an appreciable extent independently of its IBP competitors.” *EC Decision* at ¶ 117. In particular, the EC argued that the combined entity could have raised the costs of its IBP rivals, primarily Sprint and GTE, and engaged in selective price reductions to attract customers from these competitors. Further, the EC contended the merger would raise barriers to entry by new backbone entrants since the merged entity would have even less incentive to peer with them than did WorldCom and MCI prior to the merger.

⁶⁰ *DOJ Press Release* at 2.

⁶¹ *Id.*

⁶² *Network Effects in Telecommunications Mergers – MCI WorldCom Merger: Protecting the Future of the Internet*, Address by Constance K. Robinson before the Practising Law Institute, California at 8 (August 23, 1999) (“*Protecting the Internet*”) available at: <http://www.justice.gov/atr/public/speeches/3889.pdf>.

⁶³ *Id.*

⁶⁴ *WorldCom-MCI Order*, 13 FCC Rcd at 18103-104 (¶ 142).

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Five alleged anti-competitive effects were identified and discussed in the FCC's order.⁶⁵ First, the combination of the Internet backbone networks would create a network of such size that the combined entity would have less incentive to interconnect on favorable terms with other IBPs or ISPs.⁶⁶ Second, the merged entity, taking advantage of its increased size, could unilaterally raise prices for interconnection, by either charging for peering or eliminating peering altogether and converting peers into transit customers, which would ultimately increase end users' prices.⁶⁷ The FCC agreed that the need to enter into peering arrangements may be a substantial barrier to entry.⁶⁸ Third, the combined entity could degrade the quality of service to rivals to induce their rivals' customers to migrate to the combined entity's network.⁶⁹ Fourth, the combined entity could exploit its ISP customers without fear of reprisal because of the difficulty of changing IBPs.⁷⁰ Fifth, any new entrant to this market would have significant costs in terms of network construction and could be refused peering because that new entrant would lack a customer base. Such difficulties would constitute a substantial barrier to entry.⁷¹ IBPs without settlement-free peering arrangements are unable to attract the large customer base they need to obtain peering. IBPs that are unable to secure settlement-free peering arrangements must use transiting arrangements, which increase the costs of providing services to end users and may result in poorer quality transport than that associated with peering. Thus, the likelihood of new entrants mitigating the anti-competitive effects of the

⁶⁵ *WorldCom-MCI Order*, 13 FCC Rcd at 18107-109 (¶ 149-150).

⁶⁶ *WorldCom-MCI Order*, 13 FCC Rcd at 18107 (¶ 149).

⁶⁷ *Id.*

⁶⁸ *WorldCom-MCI Order*, 13 FCC Rcd at 18109 (¶ 150).

⁶⁹ *WorldCom-MCI Order*, 13 FCC Rcd at 18107 (¶ 149).

⁷⁰ *Id.*

⁷¹ *WorldCom-MCI Order*, 13 FCC Rcd at 18108 (¶ 150).

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merger was negligible. The FCC concluded, after examining these effects, that the required divestiture of its Internet backbone service and retail operation by MCI would sufficiently address them.⁷²

It is notable that Level 3 along with several other commenters contended that any divestiture would be inadequate unless the applicants committed to peer with eligible companies on a nondiscriminatory and impliedly settlements-free basis.⁷³ Specifically, in an *ex parte* filing, Level 3 urged the Commission to adopt interconnection principles to ensure that all interconnection agreements between Tier 1 IBPs adhere to certain fundamental interconnection principles, including that interconnection “should be reciprocal and non-discriminatory” and costs should be borne by both parties “on an equitable and non-discriminatory basis.”⁷⁴ Level 3 contended that because divestiture alone would not eliminate MCI WorldCom’s incentive to discriminate, the proper remedy for the potentially discriminatory behavior by WorldCom-MCI is to “require non-discriminatory interconnection (“IP Equal Access”) with all competitors on terms that are comparable to those provided by MCI WorldCom to itself internally or to third parties on comparable interconnection links (“comparably efficient peering or “CEP”).”⁷⁵ Level 3 explained that “IP Equal Access” based on CEP directly addresses the core problem caused by the merger: “the incentive to refuse to interconnect with or to provide interconnection to rivals with fewer customers.”⁷⁶ Further, “IP

⁷² *WorldCom-MCI Order*, 13 FCC Rcd at 18109 (¶ 150), 18111 (¶ 152), 18115 (¶ 156).

⁷³ *WorldCom-MCI Order*, 13 FCC Rcd at 18115 (¶ 155).

⁷⁴ Level 3 *Ex Parte* Presentation in CC Docket No. 97-211 “Proposed Interconnection Principles” (filed June 1, 1998) (“Level 3 *Ex Parte*”).

⁷⁵ *Id.* at 18.

⁷⁶ *Id.*

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Equal Access based on CEP does not penalize MCI WorldCom now or in the future for market share gain obtained by innovation or other legitimate competitive advantages.”⁷⁷ Level 3 explained that its proposed “IP Equal Access based on CEP” is “conceptually similar to remedies that have proven effective in analogous situations for more than 80 years” and provided 14 examples when such analogous remedies that had been previously imposed.⁷⁸ Without such commitment, the merged entity could deny peering, which effectively would allow it to erect a barrier to the entry of IBPs such as Level 3.⁷⁹ The FCC acknowledged its concern about the peering difficulties that Level 3 had raised but found that because MCI had committed to a complete divestiture of its Internet business, the interconnection difficulties would not be exacerbated by the merger.⁸⁰ Nevertheless, the Commission noted that the difficulties new entrants have encountered in interconnecting with IBPs prior to the merger would likely continue after, and therefore, peering is likely to remain an issue that warrants monitoring.⁸¹

Remedy

The WorldCom-MCI merger investigation resulted in the largest divestiture of assets in merger history at that time.⁸² As a result of discussions with the DOJ and EC, MCI announced that it had agreed to sell all of its Internet business.⁸³ The FCC, the DOJ, and the EC allowed WorldCom to keep ownership of its Internet interests. The divestiture was

⁷⁷ *Id.*

⁷⁸ *Id.* at 20-24.

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *DOJ Press Release* at 1.

⁸³ *WorldCom-MCI Order*, 13 FCC Rcd at 18109 (¶ 151).