REDACTED - FOR PUBLIC INSPECTION

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Federal Communications Commission
Office of the Secretary

December 22, 2009

VIA HAND DELIVERY

Marlene H. Dortch
Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, S.W.
Washington, D.C. 20554

Re: GN Docket Nos. 09-47, 09-51, 09-137

Dear Ms. Dortch:

Pursuant to the protective order ("Protective Order") released on November 16, 2009 in the above referenced dockets,[1] on behalf of tw telecom inc., ("TWTC") please find enclosed two redacted copies of a highly confidential letter ("Highly Confidential Letter") filed today in the above-referenced dockets. An unredacted copy of the Highly Confidential Letter will be filed with the Secretary's Office under separate cover. In addition, two unredacted copies of the Highly Confidential Letter are being filed with Simon Banyai.

TWTC seeks highly confidential treatment of information marked as Highly Confidential in its Highly Confidential Letter pursuant to the Protective Order. The Protective Order defines "Highly Confidential Information" (at paragraph 6) as that "contained in Highly Confidential Documents or derived therefrom that is not otherwise available from public sources and that consists of detailed or granular information regarding the location, type, or cost of last-mile infrastructure used by a Submitting Party to offer broadband services." TWTC believes that the information marked as Highly Confidential in the Highly Confidential Letter may fall within this definition. For example, data regarding the extent to which TWTC relies on off-net facilities, including the facilities of other carriers, to provide Ethernet service clearly falls within these categories as it bears directly on the "location" and "type" of service offered by TWTC.

To the extent that the information marked as Highly Confidential may not fall within the categories listed in paragraph 6 of the Protective Order, TWTC is "explaining its reasoning" (in this

[1] *A National Broadband Plan for Our Future et al.*, Protective Order, DA 09-2415 (rel. Nov. 16, 2009).

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letter and appendix) for treating such information as Highly Confidential. For example, information regarding TWTC's and other carriers' non-public retail and wholesale Ethernet prices bears directly on TWTC's and other carriers' ongoing business operations. Withholding this information from public inspection would protect against revealing company-sensitive proprietary and commercial information. The widespread release of such information would harm TWTC's and other companies' competitive position.

Moreover, as described below and in the appendix attached hereto, such information should not be made available for public inspection pursuant to 47 C.F.R. §§ 0.457(d) and 0.459. TWTC considers such information to be highly confidential trade secrets, commercial information that is "not routinely available for public inspection." 47 C.F.R. § 0.457. To the extent that there is any doubt, TWTC below makes the showing necessary to demonstrate that such information should not be made "routinely available for public inspection" pursuant to Section 0.459 of the Commission's rules.

For the forgoing reasons, parties should only be able to obtain access to such information by signing valid acknowledgements of confidentiality for Highly Confidential information attached to the Protective Order.

Please let us know if you have any questions with respect to this submission.

Respectfully submitted,

Jonathan Lechter
Attorney for tw telecom inc.

Appendix

Confidentiality Request and Justification

TWTC requests confidential treatment of the information marked as Highly Confidential in its Highly Confidential Letter of December 22, 2009, which is being filed in GN Dkt. Nos. 09-51, 09-47 and 09-137 pursuant to the Protective Order.

TWTC considers the information marked as Highly Confidential in its Highly Confidential Letter to be highly confidential and proprietary "trade secrets" and/or "commercial information" or as otherwise highly confidential under Section 0.457 of the FCC's rules and the Protective Order.

The Protective Order defines "Highly Confidential Information" (at paragraph 6) as that "contained in Highly Confidential Documents or derived therefrom that is not otherwise available from public sources and that consists of detailed or granular information regarding the location, type, or cost of last-mile infrastructure used by a Submitting Party to offer broadband services." Portions of the Highly Confidential Information in the Highly Confidential Letter clearly fall within these categories. For example, data regarding the extent to which TWTC relies on off-net facilities, including the facilities of other carriers, to provide Ethernet service clearly falls within these categories as it bears directly on the "location" and "type" of service offered by TWTC.

To the extent that the information marked as Highly Confidential may not fall within the categories in paragraph 6 of the Protective Order, TWTC is "explaining its reasoning" (in this letter and appendix) for treating such information as Highly Confidential. For example, information regarding TWTC's and other carriers' non-public retail and wholesale Ethernet prices bears directly on TWTC's and other carriers' ongoing business operations. Withholding this information from public inspection would protect against revealing company-sensitive proprietary and commercial information. The widespread release of such information would harm TWTC's and other companies' competitive position.

TWTC also seeks to preclude disclosure to the public of its information marked as Highly Confidential in its Highly Confidential Letter pursuant to Section 0.457(d) of the Commission's rules. The information marked as Highly Confidential involves TWTC's and other carriers' non-public pricing information and the extent to which TWTC is able to utilize off-net facilities to provide Ethernet at retail. Disclosure of this information to the public would risk revealing sensitive proprietary commercial and financial information. Therefore, in the normal course of Commission practice, this information should be considered records "not routinely available for public inspection" pursuant to Section 0.457(d) of the rules.

Showing Necessary Pursuant to Section 0.459(b)

TWTC explains below why the information marked as Highly Confidential should be withheld from public inspection pursuant to Section 0.459(b) of the Commission's rules. This explanation also

serves to "explain [TWTC's] reasoning" for its request for Highly Confidential treatment pursuant to paragraph 6 of the Protective Order.

Information for which confidential treatment is sought

TWTC requests that its Highly Confidential Letter containing information marked as Highly Confidential be treated on a confidential basis under Exemption 4 of the Freedom of Information Act. This information includes TWTC's and other carriers' non-public pricing information and information regarding the ability of TWTC to utilize off-net facilities to provide Ethernet service. This information constitutes sensitive trade secrets and/or commercial or financial information which TWTC and other carriers maintain as proprietary and/or confidential and is not normally made available to the public. Release of the information could have a substantial negative effect on TWTC and other carriers.

Commission proceedings in which the information was submitted

The Highly Confidential Letter was submitted in WC Dkt. Nos. 09-51, 09-47 and 09-137.

Degree to which the information in question is commercial or financial, or contains a trade secret or is privileged.

The information marked as Highly Confidential contains sensitive trade secrets and/or commercial or other information which TWTC and other carriers maintain as proprietary and withhold from public inspection.

Pricing Information: The individually negotiated pricing information contained in the Highly Confidential Letter is normally withheld from public disclosure because TWTC and other carriers serving business customers often provide tailored discounts to each customer. These discounts depend on the competitive environment and the ability of the carrier to turn a profit at a particular price. Carriers' profitability also bears on the carrier's costs of service.

Ability of TWTC to utilize off-net facilities to provide Ethernet: This information is normally withheld from public inspection because it would provide information to competitors regarding the size and location of TWTC's addressable market for Ethernet service.

Degree to which the information concerns a service that is subject to competition; manner in which disclosure of the information could result in substantial competitive harm

The information marked as Highly Confidential relates to TWTC's and other carriers' prices as well as the network coverage of TWTC's Ethernet services. As explained in the Highly Confidential Letter, the market for Ethernet service is subject to varying levels of competition. The release of the information marked as Highly Confidential would cause competitive harm to TWTC and other carriers.

Pricing information: The release of TWTC's and other carriers' pricing information would, among other things, give competitors the ability to target their offerings to undercut TWTC's

and other carriers' prices. Such data may provide information to competitors of TWTC's and other carriers' costs of service. As the FCC recognized in the Protective Order, information on carriers' costs is entitled to Highly Confidential treatment because of the harm that disclosure of such information would inflict on the submitting party.

Ability of TWTC to utilize off-net facilities to provide Ethernet: The release of such information would provide competitors and the public at large direct insight into TWTC's addressable Ethernet market and the likely reach of its network in the future. This information would allow competitors to target their Ethernet services and facilities deployment to the detriment of TWTC.

Measures taken by TWTC to prevent unauthorized disclosure; availability of the information to the public and extent of any previous disclosure of the information to third parties

TWTC has protected the information marked as Highly Confidential from public disclosure except to the extent that TWTC discloses its particular pricing offers to customers during the contract negotiation process. TWTC's competitors likewise disclose their pricing offers to TWTC during the contract negotiation process.

Justification of the period during which TWTC asserts that the material should not be available for public disclosure

TWTC cannot determine at this time any date on which this information should not be considered Highly Confidential or should become stale for the purposes of the current proceedings. The information should be retained and destroyed under the guidelines established in the Protective Order for Highly Confidential information.

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1875 K Street, N.W.
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Tel: 202 303 1000
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December 22, 2009

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
Room TW-325
445 12th Street, S.W.
Washington D.C. 20554

Re: *A National Broadband Plan for the Future et al.*, GN Docket Nos. 09-51, 09-47, 09-137

Dear Ms. Dortch:

As Chairman Genachowski recently observed, the United States economy and society are at a cross-roads.[1] U.S. businesses, health care providers and educators face daunting challenges. Businesses must grow and innovate in an increasingly competitive global economy; health care providers must try to provide first-class care to a larger percentage of the population while keeping ever-rising costs under control, and universities and libraries must try to provide U.S. citizens with the educational tools to compete for jobs with highly trained, lower paid counterparts in other countries. The extent to which these challenges are met will go a long way toward determining the prosperity, health and dynamism of the U.S. population.

Among the factors that will influence this future, few are more important than the telecommunications infrastructure that is available to businesses, health care providers, schools and libraries. A U.S. business that must rely on 20th century broadband and IT applications cannot compete on an equal footing with competitors in other countries that benefit from the greater bandwidth, greater flexibility and lower costs of 21st century broadband and IT applications. A network of hospitals and clinics cannot take advantage of the enormous benefits of electronic health records, digitized x-ray images, real time video for Telehealth consultations and diagnoses and other applications absent sufficient and sufficiently flexible broadband bandwidth. Universities and libraries cannot extend the reach of their educational services absent sufficient bandwidth.

[1] *See* "Innovation in the Broadband World," Prepared Remarks of Chairman Julius Genachowski, FCC, The Innovation Economy Conference, Washington, D.C., at 1 (Dec. 1, 2009) ("*Innovation Speech*").

The technology that holds the greatest promise for delivering the bandwidth, scalability and efficiency needed for these critical applications is Ethernet. The inherent efficiencies of Ethernet networks allow service providers to offer more applications requiring higher bandwidth at far lower cost than is the case with legacy services.[2] Ethernet also allows service providers to change the bandwidth of a connection in most cases without any need to deploy new equipment; a simple remote adjustment is all that is necessary.[3] The remarkable efficiencies of Ethernet make high-bandwidth business applications as well as telemedicine and remote job training programs affordable. Even AT&T, which in the past (when seeking to defend FCC deregulation of the service) dismissed Ethernet as "simply one technological option among many [such as] Frame Relay and ATM,"[4] now

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[2] *See* Abdul Kasim, *Delivering Carrier Ethernet: Extending the Ethernet Beyond the LAN*, at 145 (2008) ("The capital expenditures of ATM/DSL architectures are also significantly higher than with Ethernet architectures. For example, an ATM/OC3 port can cost ten times as much as a Gigabit Ethernet port, and provide just a fraction of the capacity."); Metro Ethernet Forum, Carrier Ethernet - The Technology of Choice for Access Networks, at 7 (Mar. 2007) ("*MEF March 2007 White Paper* ") (noting that Ethernet provides "Lower capital expenditures....than TDM/SONET...because Ethernet technology is more widely deployed [in the LAN] and built on a less-complex specification."), *available at* http://www.metroethernetforum.org/MSWord_Documents/Access_White_Paper_March_2007.doc.; Marguerite Reardon, *Study: Ethernet in the City Cuts Carrier Costs*, cnet news, Jan. 26, 2004 ("Ethernet equipment typically can cost anywhere from 40 to 50 percent less than traditional SONET/SDH...gear, which is often used to transport traffic in a metropolitan network."), *available at* http://news.cnet.com/Study-Ethernet-in-the-city-cuts-carrier-costs/2100-1037_3-5146740.html; XO Communications, *Ethernet* ("Ethernet is less expensive than older, alternative network technologies such as Frame Relay or Asynchronous Transfer Mode (ATM) and there is no need to invest in equipment that converts packets of information throughout the network."), *available at* http://www.xo.com/services/network/Pages/ethernet.aspx (last visited Nov. 30, 2009).

[3] *Delivering Carrier Ethernet, supra* note 2, at 36 ("Ethernet enables Service Providers to modify or upgrade the services offered to enterprise customers remotely. This capability offers the service providers two major benefits (apart from speedy delivery for the enterprise user): reduced cost of introducing additional bandwidth and an increase in revenue velocity....With TDM, this would simply not be possible."); *id.* 37 ("Another study by the MEF...showed a 50 percent savings in truck rolls alone for provisioning a service using Ethernet versus the static approaches common when delivering Ethernet services.").

[4] *See* Brief for Intervenors AT&T Inc., *et al.*, at 11, *Ad Hoc Telecom. Users Comm. v. FCC*, 572 F.3d 903 (D.C. Cir. 2009) (No. 07-1426).

acknowledges that Ethernet "is it"-- the most efficient choice for last mile business access.[5] Nor is this a mystery to telecommunications experts in other countries. The U.K. telecommunications regulator OfCom recently concluded that "Ethernet is the transmission technology of choice for 21st century networks ('21 CN')."[6]

TWTC and other competitors have aggressively pushed the deployment of Ethernet services wherever they have been able to do so, enabling U.S. businesses, hospitals, universities and community anchor institutions to benefit in concrete ways from its efficiencies. The following examples are illustrative.

- TWTC replaced The Oregon Clinic's "legacy Frame Relay and T1 technology with...high capacity, fully secure metro Ethernet services at up to 500 mbps per second" at multiple Clinic locations. The CIO of the Oregon Clinic observed that "[e]ach 500 Mbps metro Ethernet circuit allows us to deliver patient data to physician screens in seconds." This is a stark departure from the Clinic's previous reliance on "CD ROMs, delivered by courier, to transfer medical records and images" among its multiple locations. The Clinic was able to upgrade its broadband systems in this way "without drastic increase to [its] telecommunications budget."[7]

- TWTC utilized Ethernet to interconnect six Health One hospitals in the Denver area. The Information Services director of Health One observed that the new Ethernet "system increases our current network capacity 10-fold." As he explained, high capacity Ethernet is "essential in supporting the health care provider's Picture Archiving and Communications System (PACS) applications because image files, such as magnetic resonance L-Spine image, can average up to 100 Megabytes or more per image."[8]

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[5] *See* Carol Wilson, *AT&T: Ethernet Is It*, Light Reading, Nov. 4, 2009 ("'Ethernet is it; it has won Layer 2,' [AT&T's] Chiosi said, after reciting a list of network types that once vied for that position."), *available at* http://www.lightreading.com/document.asp?doc_id=184143.

[6] United Kingdom Office of Communications, *Leased Lines Charge Control*, at 11 (Dec. 8, 2008), *available at* http://www.ofcom.org.uk/consult/condocs/llcc/leasedlines.pdf.

[7] Press Release, *Time Warner Telecom Inc., The Oregon Clinic Accelerates Network, Improves Patient Care with Time Warner Telecom's Metro Ethernet Service* (July 30, 2007), *available at* http://www.twtelecom.com/Documents/Announcements/News/2007/OregonClinic.pdf.

[8] Press Release, Time Warner Telecom, *Time Warner Telecom Wins Metro Ethernet Contract From HCA/HealthONE* (Oct. 27, 2003), *available at* http://www.twtelecom.com/Documents/Announcements/News/2003/News2003_TWTC_HealthONE.pdf.

- TWTC replaced legacy T1 lines with two 100 Mbps switched Ethernet links between the Boise State Main Campus and two remote campuses in Idaho. TWTC also replaced eight T1 lines with a single 20 Mbps Ethernet trunk at the main campus to support campus-wide VoIP service. A university representative explained that "the new solution will be about half the cost of what we paid previously" and will enable the university to "converge voice and data traffic" over a single interface. Moreover, the efficiencies of Ethernet have made maintenance and service changes easier because "everything becomes software controllable." Previously "if a T1 had a bad channel, it had to be configured out of the CO."[9]

- TWTC deployed Ethernet services connecting the three campuses of Benedict College in South Carolina in order to "provide a 400 percent increase in speed" as compared to the services previously available to the school. "With this converged network, the college predicts it will reduce its yearly voice and data expense by about a fifth" of what it previously spent.[10]

While these and many other real world experiences demonstrate the benefits of Ethernet, the record in this docket and TWTC's own experience reveal that there are huge swaths of territory in the U.S. where those who stand to benefit most from affordable access to Ethernet lack sufficient broadband. For example, many schools, libraries and local governments currently have no choice but to rely on "T1 circuits, (or even worse, dial up modems)" for connectivity.[11] These institutions are "concerned by the cost of leasing T1 circuits" but they are even more concerned "that the leased [T1] circuits are limited in performance and capacity and that these limitations constrain [their] capability to meet school, library, and government needs."[12] Similarly, health care providers report that they too

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[9] TW Telecom Case Study, *Boise State University Graduated to Largest National Education VoIP Deployment with tw telecom IP-based Solution* 2-3, *available at* http://www.twtelecom.com/Documents/Resources/PDF/cs/CaseStudy_BoiseState3.pdf.

[10] Press Release, Benedict College, *Time Warner Delivers Secure, Converged IP and Ethernet Connectivity to Benedict College* (Aug. 29, 2006), *available at* http://www.twtelecom.com/Documents/Announcements/News/2006/Benedict_College.pdf.

[11] *See* Comments of the National Association of Telecommunications Officers and Advisors (NATOA), National League of Cities (NLC), United States Conference of Mayors (USCM), and National Association of Counties (NACo), GN Dkt. Nos. 09-51 *et al.*, at 17 (filed Nov. 6, 2009).

[12] *See id.* at 17-18; Comments of Kellogg & Sovereign Consulting, LLC, GN Dkt. No. 09-51 *et al.*, at 2-3 (filed Nov. 20, 2009) (noting that the majority of Oklahoma schools "have either T-1 (1.54 Mbps) or 3 Mbps circuits when the majority know that they need at a minimum 100 or 1000 Mbps circuits to accommodate the rapid movement toward curriculum that is online and hosted by curriculum experts.").

lack sufficient broadband capacity.[13] Meanwhile, as Chairman Genachowski has observed, "other countries are not standing still."[14] For example, in the United Kingdom, BT Americas Inc. ("BT") has deployed Ethernet service to "virtually all enterprise sites in the country."[15] BT has 614 Ethernet nodes throughout the UK, and its Ethernet access is within 5 kilometers of 90 percent of business premises.[16]

Thus, as the Commission proceeds with drafting the National Broadband Plan, it must confront the question of how to ensure that Ethernet is widely deployed at reasonable prices in the future. Chairman Genachowski observed that two central pillars of innovation are competition and infrastructure.[17] Unfortunately, today, Ethernet policy in the U.S. affirmatively undermines both competition and infrastructure deployment.

It should go without saying that vibrant competition is key to the widespread deployment of affordable Ethernet. While AT&T and other incumbent LECs now recognize the promise of Ethernet, they have slow-rolled the deployment of Ethernet as a means of protecting legacy ATM and Frame

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[13] *See, e.g.*, Comments of National Health IT Collaborative for the Underserved, GN Dkt. Nos. 09-51 *et al.*, at 3 (filed Dec. 4, 2009) (explaining that "in Japan, much of the nation is wired with superior high-speed fiber technology providing symmetric 100 Mbps bandwidth" that can be used to enable pathologists to make remote diagnoses or radiologists to conduct remote interpretations and/or consultations, but that "[u]nfortunately, most of America does not have access to broadband connections that are fast enough to enable [teleradiology] or other bandwidth-intensive telehealth applications already in widespread use in other countries"); Comments of UnitedHealth Group, GN Dkt. Nos. 09-51 *et al.*, at 4 (filed Dec. 4, 2009) (explaining that the bandwidth requirements of high resolution imaging and image transfer "place[] a significant burden on connectivity in rural areas where access [to] imaging systems is often much more restricted"); Comments of the Rural Wisconsin Health Cooperative Information Technology Network, GN Dkt. Nos. 09-51 *et al.*, at 3 (filed Nov. 30, 2009) ("[W]e've recently begun a process to select a shared PACS, which our current transmission speeds [i.e., 20 Mbps] will not support. When we implement PACS, we will need to either provision PACS servers at each of the participating hospital locations, or to raise our bandwidth levels to allow the effective sharing of server resources from the central datacenter.").

[14] *Innovation Speech* at 1.

[15] Comments BT Americas Inc., WC Dkt. No. 05-25 & RM No. 10593, at 20-21 (filed Aug. 8, 2007).

[16] *Ex Parte* Letter from Sheba Chacko, Head, Global Operational Regulation and Americas Regulation, BT Global Services, to Marlene H. Dortch, Secretary, FCC, WC Dkt. No. 05-25 & GN Dkt. No. 09-51, Attachment, at Slide 9 (filed Nov. 4, 2009).

[17] *See Innovation Speech* at 5.

Relay revenues.[18] Where incumbent LECs do offer Ethernet, they have no incentive to keep prices low unless they face competition.

Competitors like TWTC have deployed Ethernet wherever possible, but the number of locations to which they can do so via their own loop facilities is limited. For example, TWTC can self-deploy loops to locations with large telecommunications spend and that are relatively close to the TWTC transport network. But most locations do not meet these criteria and, even where they do, loop deployment is extremely slow. TWTC has thus far constructed fiber loop facilities to approximately 10,000 commercial buildings in the U.S., and it deploys such loops to approximately 1,000 buildings per year. But there are approximately three million commercial buildings in the U.S. It is obvious, therefore, that TWTC has no choice but to rely on leased loop facilities to reach most business customer locations. In the vast majority of locations to which TWTC cannot efficiently deploy its own loops, the incumbent LEC owns the only loop facility connected to the building. Thus, unless and until TWTC can obtain access to off-net Ethernet loops from incumbent LECs on reasonable rates, terms and conditions, TWTC will be limited to providing Ethernet to a tiny percentage of the commercial locations in the country.

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[18] *See* Brief of Private Petitioners at 7, 32, *Ad Hoc Telecomm. Users Comm. v. FCC*, 572 F.3d 903 (D.C. Cir. 2009) (No. 07-1426); Letter from Thomas Jones, Counsel for Time Warner Telecom, Inc., to Marlene H. Dortch, Secretary, FCC, WC Dkt. No. 06-125, at 5-6 (filed Oct. 9, 2007); *Ex Parte* Letter from Karen Reidy, Comptel, to Marlene H. Dortch, Secretary, FCC, WC Dkt. Nos. 06-125 & 06-147, at 2 (filed Sept. 6, 2007); *Delivering Carrier Ethernet, supra* note 2, at 40 ("Service Providers can be reluctant to offer Ethernet-based services given that they can derive substantially higher revenues from incumbent Legacy services like Frame Relay, Private Line, especially if customers are not demanding new services."); *see id.* at 41 ("A big challenge faced by Service Providers is that Ethernet is largely being used as a substitute for legacy services....And with considerably lower per bit revenues from offering Ethernet services, Service Providers face the very real prospect of declining revenues. Notwithstanding the benefits of Ethernet, the potential loss of revenues makes them, at best, reluctant to speed up the offering of Ethernet services."); Mike Robuck, *Move to Ethernet Services to Save Money*, CED Magazine, Jan. 14, 2009 ("'The vast majority of advanced data networking circuits in use today by businesses utilize legacy technologies such as frame relay or private line services that were aggressively deployed over the last two decades by regional telecom carriers,' said Kristine Faulkner, vice president of product development and management for Cox Business. 'Although Ethernet represents an ideal solution for many businesses, these traditional telecom carriers have very little incentive to migrate customers from higher billing legacy services.'"), *available at* http://www.cedmagazine.com/Cox-Business-Ethernet-save-money.aspx; Mike Robuck, *Hopping Onboard*, CED Magazine, Sept. 1, 2007 ("RBOCs are faced with cannibalizing their embedded base of private line and frame relay customers as they try to transition over to Carrier Ethernet services."), *available at* http://www.cedmagazine.com/Article-Hopping-Onboard.aspx; *MEF March 2007 White Paper* at 5 ("14% of Ethernet services will represent new service deployments while 86% will come from the replacement of legacy services.").

The availability of viable Ethernet loops from incumbent LECs is also critical to the deployment of fiber loop infrastructure by TWTC and other competitors. This is because, in order to take advantage of the efficiencies of Ethernet, customers generally require that their carrier offer the service to most or all of the customer's locations. It is often the case that TWTC can efficiently deploy loop facilities to some of those locations, but not to others. For example, a large urban hospital may have six locations in an MSA, two of which require high-capacity Ethernet connections (e.g., 100 Mbps) that yield sufficient revenue to enable TWTC to deploy fiber loops to those locations and four of which require relatively low-capacity Ethernet connections (e.g., 10 Mpbs) that yield insufficient revenue to enable TWTC to deploy fiber loops to those locations. In order to provide Ethernet to this hospital, TWTC is likely required to serve all of its locations. It follows that, in order to have the opportunity to deploy new fiber loop facilities to the two high-demand locations, TWTC must be able to obtain reasonably priced off-net facilities to the four low-demand locations. As this example illustrates, reasonably priced wholesale Ethernet loops are a necessary prerequisite for TWTC to be able to deploy fiber infrastructure even to high-demand locations. The absence of reasonably priced off-net loop facilities undermines Chairman Genachowski's objective of infrastructure deployment.

Unfortunately, the FCC has abdicated its responsibility to ensure that incumbent LECs offer Ethernet loops at wholesale on just and reasonable rates, terms and conditions. In a series of forbearance decisions (and a default forbearance grant, in the case of Verizon) over the past three years, the FCC deregulated the Ethernet services offered by AT&T, Verizon, Qwest as well as several other incumbent LECs.[19] This has left the incumbent LECs free to insist on unreasonable terms and conditions for wholesale Ethernet service, and, in most cases, they have taken full advantage of this

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[19] *See Qwest Petition for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, Memorandum Opinion and Order, 23 FCC Rcd 12260 (2008) ("*Qwest Ethernet Forbearance Order*"); *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services; Petition of BellSouth Corporation for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, Memorandum Opinion and Order, 22 FCC Rcd 1870 (2007) *Petition of the Embarq Local Operating Companies for Forbearance Under 47 U.S.C. § 160(c) from Application of Computer Inquiry and Certain Title II Common-Carriage Requirements Petition of the Frontier and Citizens ILECs for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Their Broadband Services*, Memorandum Opinion and Order, 22 FCC Rcd 19478 (2007); *Petition of ACS of Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, as Amended (47 U.S.C. § 160(c)), for Forbearance from Certain Dominant Carrier Regulation of Its Interstate Access Services, and for Forbearance from Title II Regulation of Its Broadband Services, in the Anchorage, Alaska, Incumbent Local Exchange Carrier Study Area*, Memorandum Opinion and Order, 22 FCC Rcd 16304 (2007); *Verizon Telephone Companies' Petition for Forbearance from Title II and Computer Inquiry Rules with Respect to their Broadband Services Is Granted by Operation of Law*, News Release, WC Dkt. No. 04-440 (rel. Mar. 20, 2006) (describing grant of forbearance by default).

freedom. As a result, TWTC has been largely unsuccessful in its efforts to obtain wholesale Ethernet loops from incumbent LECs on terms that permit TWTC to rely on such facilities as inputs for retail service offerings. In fact, TWTC leases only a small handful of Ethernet special access circuits from incumbent LECs.[20]

The main reason why TWTC has been unable to lease Ethernet loops from incumbent LECs is that the prices for these services are extremely high. In an appendix attached hereto, TWTC has provided a comparison of the standard wholesale rates for Ethernet loops charged by Qwest and AT&T (prices for the legacy BellSouth region and the legacy SBC region are listed separately), the rates that Verizon charges TWTC pursuant to a wholesale contract TWTC signed with Verizon, and TWTC's wholesale and retail rates, all pursuant to standard 36-month term commitments.[21] As the price comparisons show, virtually every incumbent LEC wholesale Ethernet loop price exceeds, and in some cases vastly exceeds, the TWTC retail price.[22] Like any private firm, TWTC charges the highest retail rates that market conditions permit. In most locations in which TWTC offers Ethernet at retail, however, the incumbent LEC can also offer Ethernet service at retail, and the incumbent can lower its prices to match those charged by TWTC. But while the incumbent LECs compete in the retail market on price, the price lists provided herewith demonstrate that they maintain extremely high wholesale prices. These wholesale prices place TWTC in a classic price squeeze, making reliance on incumbent

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[20] As of October 23, 2009, TWTC's billing systems showed that TWTC leased **[highly confidential begin]**

[highly confidential end] While TWTC has signed a commercial wholesale agreement with Verizon for the provision of Ethernet loops, TWTC has been reluctant to begin leasing Ethernet loops from Verizon in a commercial environment until all operational issues have been resolved. Accordingly, TWTC **[highly confidential begin]**

[highly confidential end] TWTC does expect to lease Ethernet loops from Verizon in the future, but Verizon's high wholesale rates are likely to substantially limit the circumstances in which TWTC can do so.

[21] TWTC has been trying to obtain wholesale Ethernet loops from AT&T at reasonable rates, terms and conditions for years. Those negotiations continue today. TWTC has not included the prices that AT&T has proposed during those negotiations in the Appendix attached hereto because of the sensitivity of the ongoing commercial negotiations with AT&T.

[22] In many cases, Ethernet service prices include both a charge for loops and a charge for one or more aggregate port, which is essentially a connection between electronics in a central office. For the sake of simplicity, TWTC has listed only loop prices in the appendix. Nevertheless, TWTC would welcome the opportunity to participate in a close FCC examination of all incumbent LEC Ethernet prices, both loop prices and aggregate port prices. That examination, while more complex, would yield the same conclusion as a comparison of loop prices.

LEC wholesale Ethernet service impossible in almost every situation.[23] Moreover, as a further illustration of the unreasonable level of incumbent LEC wholesale prices, TWTC has provided the prices it charges to wholesale customers for the provision of Ethernet service via TWTC's own loop facilities. As the charts provided in the Appendix demonstrate, TWTC's wholesale Ethernet prices are well below incumbent LEC wholesale Ethernet prices.

As a fallback to trying to rely on wholesale finished Ethernet loops, TWTC has tried to rely on traditional DS1 and DS3 circuits as off-net loop inputs. But as TWTC and other competitors have explained, reliance on TDM loop inputs is an inferior option as compared to reliance on off-net wholesale Ethernet loops.[24] Among other things, reliance on TDM facilities results in higher costs, less flexibility to adjust capacity to meet the customer's needs, and increased potential points for failure as compared to reliance on wholesale finished Ethernet loops. Independent analysts have corroborated this assessment, concluding that reliance on non-Ethernet inputs to provide retail Ethernet services eliminates many of the inherent cost advantages of Ethernet technology.[25] Thus, while TWTC

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[23] Other competitors have also been harmed by the incumbents' failure to offer reasonable Ethernet special access rates. As Sprint explained, Ethernet "can provide greater reliability than traditional TDM circuits, and may be more efficient than TDM for high bandwidth needs." Yet, Sprint has "thus far purchased Ethernet facilities from Verizon or AT&T for only a handful of customers" because of their "general unwillingness to offer Ethernet services at rates that Sprint…considers reasonable…" Sprint/Nextel Comments, GN Dkt. Nos. 09-51 *et al.*, at 12 (filed Nov. 4, 2009).

[24] *See Ex Parte* Letter from Joshua M. Bobeck, Counsel for Alpheus Communications, L.P., to Marlene H. Dortch, Secretary, FCC, WC Dkt. No. 06-125, at 3-5 (filed Oct. 9, 2007); *Ex Parte* Letter from Thomas Jones, Counsel for Time Warner telecom, Inc., to Marlene H. Dortch, Secretary, FCC, WC Dkt. No. 06-125, at 3-4 (filed Apr. 24, 2007); *Ex Parte* Letter from Aryeh Friedman, BT Americas Inc., to Marlene H. Dortch, Secretary, FCC, WC Dkt. Nos. 06-125 & 06-147, at 1-2 (filed Oct. 5, 2007); *Ex Parte* Letter from Brad E. Mutschelknaus *et al.*, Counsel for NuVox Communications *et al.*, to Marlene H. Dortch, Secretary, FCC, WC Dkt. Nos. 04-440 *et al.*, at 7 (filed Sept. 19, 2007); *Ex Parte* Letter from Laura H. Carter, Vice President, Government Affairs, Fed. Regulatory, Sprint Nextel, to Marlene H. Dortch, Secretary, FCC, WC Dkt. Nos. 06-125 & 06-147, at 7-8 (filed Aug. 30, 2007); Opposition of Time Warner Telecom, Inc *et al.*, WC Dkt. Nos., 06-125 & 06-147, at 16-20 (filed Aug. 17, 2006).

[25] *See Delivering Carrier Ethernet* at 95 ("One big advantage of carrier Ethernet services is the economics for both the Service providers and enterprise end users. However, as these services are currently being delivered over numerous underlying technologies…the economics may be less attractive (as opposed to delivering native Ethernet)."); *id.* at 215 ("In particular, leased line services run at slower T1 or OC3 speeds and require costly intermediate protocol [translations]…It is well known that these multilayered set ups suffer from huge bandwidth inefficiency and are very costly from an operational perspective. More importantly, they have failed to keep pace with today's gigabit-level Ethernet port speeds."); *id* at 530 ("Service Providers will choose the most optimal solution for

has tried to rely on TDM inputs to provide Ethernet, the problems with doing so make this a viable option in only limited circumstances.

Because of the obstacles associated with leasing incumbent LEC loops, TWTC just cannot provide Ethernet to many off-net locations. For example, as of mid-October, TWTC served fewer than **[highly confidential begin]** **[highly confidential end]** to which it provided Ethernet via off-net facilities.[26] TWTC's on-net/off-net ratio for community anchor institutions is similar to its overall ratio. As of mid-October, TWTC served **[highly confidential begin]** **[highly confidential end]** of the approximately **[highly confidential begin]** **[highly confidential end]** school, library, health and government customer locations to which TWTC provided switched Ethernet services via off-net facilities.[27] In contrast, TWTC's on-net/off-net ratio for *all of its customer locations* (those to which it provides Ethernet and non-Ethernet services) **[highly confidential begin]**

[highly confidential end]

This data starkly illustrates the effect of the existing regulatory regime on the market for Ethernet service. In the absence of effective regulation of incumbent LEC wholesale Ethernet prices, the incumbent LECs charge prices that are so high that they effectively preclude TWTC and other competitors from relying on these facilities to serve off-net locations. Moreover, it is not feasible in most instances to utilize TDM-based special access to provide Ethernet services at retail. As a result, the addressable market for Ethernet services for TWTC, the third largest provider of Ethernet service

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delivery [of Ethernet] and hence will invariably move toward a native Ethernet solution with minimal overhead."); Lee L. Selwyn, Econ. & Tech., Inc., *The Non-Duplicability of Wholesale Ethernet Services: Promoting Competition in the Face of the Incumbents' Dominance over Last-Mile Facilities*, at 19 (Mar. 2009) ("[I]f the [ILEC] is only required to offer its TDM-based services....the competitor seeking to provide Ethernet services over this facility is confronted with the costly and inefficient task of reprovisioning the service --cobbling the bandwidth together from 'slices' that are mid-sized for the required use and purchasing additional, costly electronic equipment."), *available at* www.consumersforinternet**competition**.com/pdf/eti-report.pdf.

[26] Specifically, as of October 23, 2009, of the approximately **[highly confidential begin]** **[highly confidential end]** locations TWTC serves with Native LAN (TWTC's switched Ethernet service), TWTC served **[highly confidential begin]** **[highly confidential end]** via on-net facilities while it served only **[highly confidential begin]** **[highly confidential end]** via off-net facilities. TWTC was unable to determine whether 16 locations were served via on-net or off-net facilities.

[27] Because TWTC has only purchased a **[highly confidential begin]**

[highly confidential end].

in the U.S.,[28] is extremely limited. TWTC and other competitors simply do not have the ability to offer a viable competitive offering at the vast majority of commercial locations, including those of health care providers and schools and libraries. The result is that, in the vast majority of locations, incumbent LECs are free to introduce Ethernet at their own pace, only where and when doing so does not unduly cannibalize legacy service revenues and only at prices that are higher than would apply if TWTC and other carriers could serve them. Just as damaging, the lack of viable off-net loop facilities prevents TWTC from deploying fiber loop facilities as aggressively as it would otherwise.

Nor is there any merit to the assertion that lowering incumbent LEC wholesale Ethernet prices would do nothing more than lower TWTC's costs without yielding benefits to consumer welfare. Incumbent LECs possess substantial and persisting market power over Ethernet loops, which are an essential input of production for critical downstream retail Ethernet service offerings. Incumbent LECs' control over these inputs gives them the incentive and, absent regulation, the opportunity to deny competitors necessary inputs and to raise rivals' costs.[29] Exploiting their market power over loops in this manner gives the incumbent LECs the ability to limit the size of the market subject to competition in the provision of Ethernet, thereby keeping end user prices artificially high and slow-rolling innovation. This is exactly what has occurred in the Ethernet market. As a result, U.S. businesses, health care providers, schools and libraries must make do with less bandwidth capacity, higher costs, diminished scalability and diminished efficiency. In contrast, lower wholesale Ethernet prices will yield competition that would result in lower retail prices, accelerated rollout of critical Ethernet solutions, and increased competition in the deployment of fiber loop facilities. U.S. businesses, health care providers, schools and libraries would have more bandwidth, lower costs, increased scalability and increased overall efficiency. It is hard to imagine a case in which appropriately targeted regulation would yield greater consumer welfare benefits.

In sum, U.S. policy advances neither of Chairman Genachowski's stated objectives of competition or robust infrastructure deployment in the Ethernet market to the extent that it should.

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[28] Sean Buckly, *Vertical: Incumbents Dominate U.S. Ethernet Market*, Fierce Telecom: What's Next for Telcos, Aug. 21, 2009, *available at* http://www.fiercetelecom.com/story/vertical-incumbents-dominate-u-s-ethernet-market/2009-08-21#ixzz0WI1mAJHi. Notably, even at their measured pace of deployment, the incumbent LECs are gradually increasing their market share in the provision of Ethernet at TWTC's and cable companies' expense. As Vertical Systems Group has explained, "the incumbent service provider [Ethernet market share] surpasses the Competitive Provider and Cable MSO segments combined." *Id.* Incumbents have in the last year increased their Ethernet market share to "gain the upper hand in the Business Ethernet market" by "[t]aking advantage of their sizable fiber footprints and metro area service focus." *Id.*

[29] *See Applications of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, for Consent to Transfer Control et al.*, Memorandum Opinion and Order, 14 FCC Rcd 14712, ¶¶ 61, 107-109, 177, 187, 196-211 (1999).

This is a matter of serious concern to the U.S. economy as a whole, since it affects the efficiency and international competitiveness of U.S. businesses. Moreover, it is a matter of great relevance to the National Broadband Plan, since the many health care providers, schools, libraries and local governments that have expressed frustration at the absence of sufficient bandwidth are unlikely to receive the benefit of competition and competitive infrastructure deployment unless there is a material change in the marketplace.

That marketplace change can only occur if the FCC (1) reestablishes dominant common carrier regulation for wholesale Ethernet service offered by AT&T, Qwest, Verizon and other incumbent LECs, and(2) utilizes that dominant carrier regulation to mandate lower wholesale prices for capacities of Ethernet service that do not yield sufficient revenue to enable competitors to deploy their own loop facilities. In particular, the incumbent LECs' prices for such services should be set at levels that are materially below competitors' retail prices for Ethernet. Only then will the goal of broadband deployment be sufficiently promoted in the U.S. market.

Respectfully submitted,

Thomas Jones
Jonathan Lechter

Attorneys for tw telecom inc.

APPENDIX

Ethernet Wholesale Price Comparisons
36 Month Pricing

The following Tables and Charts show the standard wholesale rates charged by Qwest[30] and AT&T (prices for the legacy BellSouth region and the legacy SBC region are listed separately)[31], the rates that Verizon charges TWTC pursuant to a wholesale contract TWTC signed with Verizon, and TWTC's wholesale and retail rates, all pursuant to standard 36-month term commitments. End user bandwidth refers to Ethernet loop facilities of the specified bandwidth.

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[30] Qwest prices were provided to tw telecom subsequent to Qwest's withdrawal of its Federal Ethernet Tariffs, pursuant to the FCC's grant of Forbearance. *See Qwest Ethernet Forbearance Order*. Qwest does not publish standard Ethernet prices on its website, and tw telecom has not been provided prices for many of the End User Bandwidth rate elements.

[31] TWTC has been trying to obtain wholesale Ethernet loops from AT&T at reasonable rates, terms and conditions for years. Those negotiations continue today. Due to the sensitivity of those negotiations, TWTC has not included the prices that AT&T has proposed in the following Tables and Charts. However, if TWTC were to purchase Ethernet service today, it would have to pay the prices contained in AT&T's *Ethernet Service Guidelines* document.

Table 1: End User Bandwidth Price Comparison

Bandwidth (Mbps)	AT&T BST Guidebook	AT&T SBC Guidebook	Verizon Contract [Highly Confidential Begin]	Qwest Offer [Highly Confidential Begin]	TWTC Retail [Highly Confidential Begin]	TWTC Wholesale [Highly Confidential Begin]
10	$744	$1,270				
20	$919	$1,480				
50	$1,192	$1,590				
100	$1,428	$1,740				
200	N/A	N/A				
250	$1,770	$2,520				
300	N/A	N/A				
400	N/A	N/A				
500	$2,332	$2,800				
600	N/A	$3,080				
700	N/A	N/A				
800	N/A	N/A				
900	$3,592	N/A				
1000	$3,769	$3,370				
			[Highly Confidential End]	[Highly Confidential End]	Highly Confidential End]	Highly Confidential End]

Table 2: End User Bandwidth Percent Comparison to TWTC Wholesale Price

Bandwidth (Mbps)	AT&T BST Guidebook	AT&T SBC Guidebook	Verizon Contract [Highly Confidential Begin]	Qwest Offer [Highly Confidential Begin]	TWTC Retail [Highly Confidential Begin]	TWTC Wholesale [Highly Confidential Begin]
10	40%	139%				
20	59%	156%				
50	66%	122%				
100	33%	62%				
200	N/A	N/A				
300	N/A	N/A				
400	N/A	N/A				
500	51%	82%				
600	N/A	82%				

700	N/A	N/A				
800	N/A	N/A				
900	91%	N/A				
1000	92%	72%				
			[Highly Confidential End]	**[Highly Confidential End]**	**[Highly Confidential End]**	**[Highly Confidential End]**

Chart 1

End User Bandwidth Price Comparison 10 Mbps
Monthly Rates (36 Months)
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
$744
$1,270
[Highly Confidential Begin]
[Highly Confidential End]
AT&T BST Guidebook
AT&T SBC Guidebook
Verizon Contract
Qwest Offer
TWTC Retail
TWTC Wholesale

Chart 2

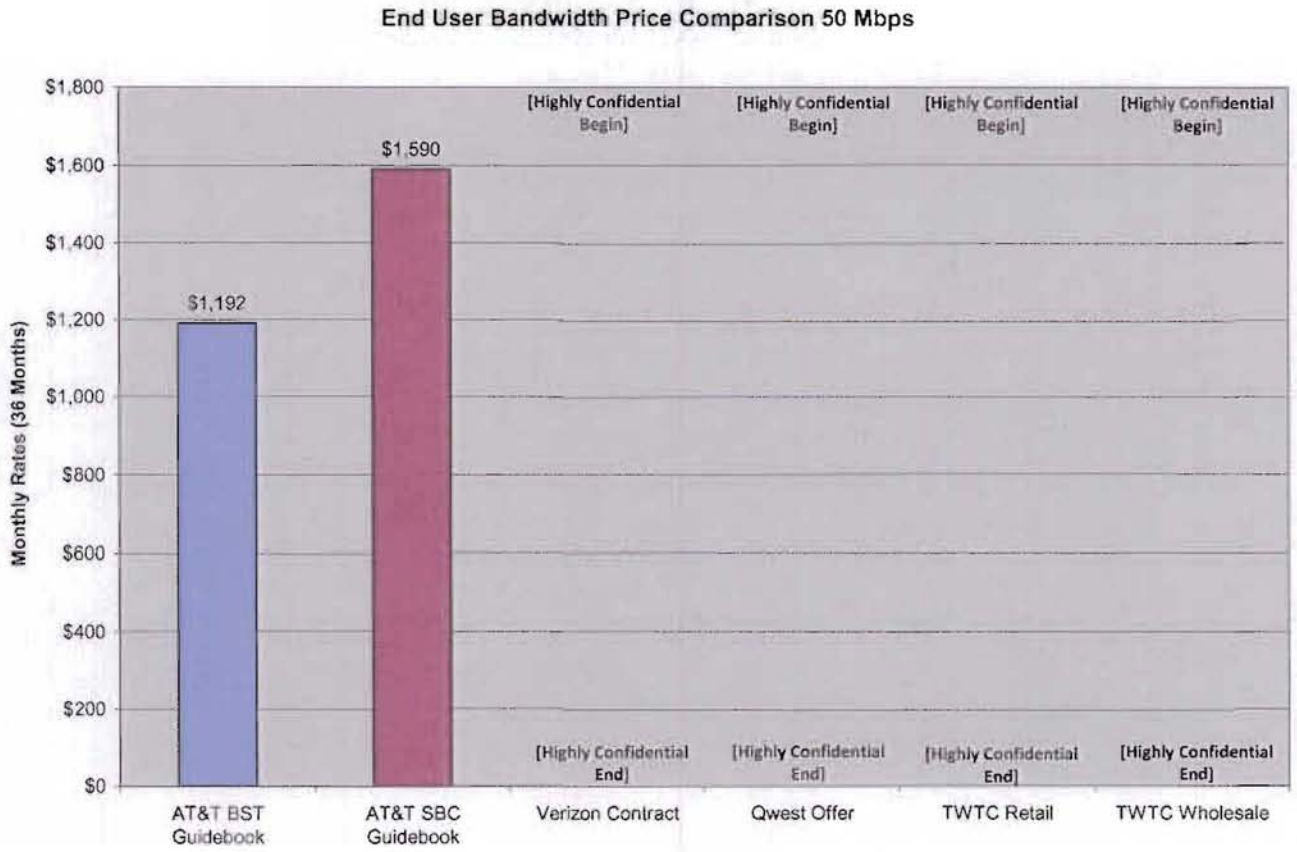

End User Bandwidth Price Comparison 50 Mbps
Monthly Rates (36 Months)
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
$1,192
$1,590
[Highly Confidential Begin]
[Highly Confidential End]
AT&T BST Guidebook
AT&T SBC Guidebook
Verizon Contract
Qwest Offer
TWTC Retail
TWTC Wholesale

Chart 3

End User Bandwidth Price Comparison 100 Mbps
Monthly Rates 36 Months
$2,000
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
$1,428
$1,740
[Highly Confidential Begin]
[Highly Confidential End]
AT&T BST Guidebook
AT&T SBC Guidebook
Verizon Contract
Qwest Offer
TWTC Retail
TWTC Wholesale

Chart 4

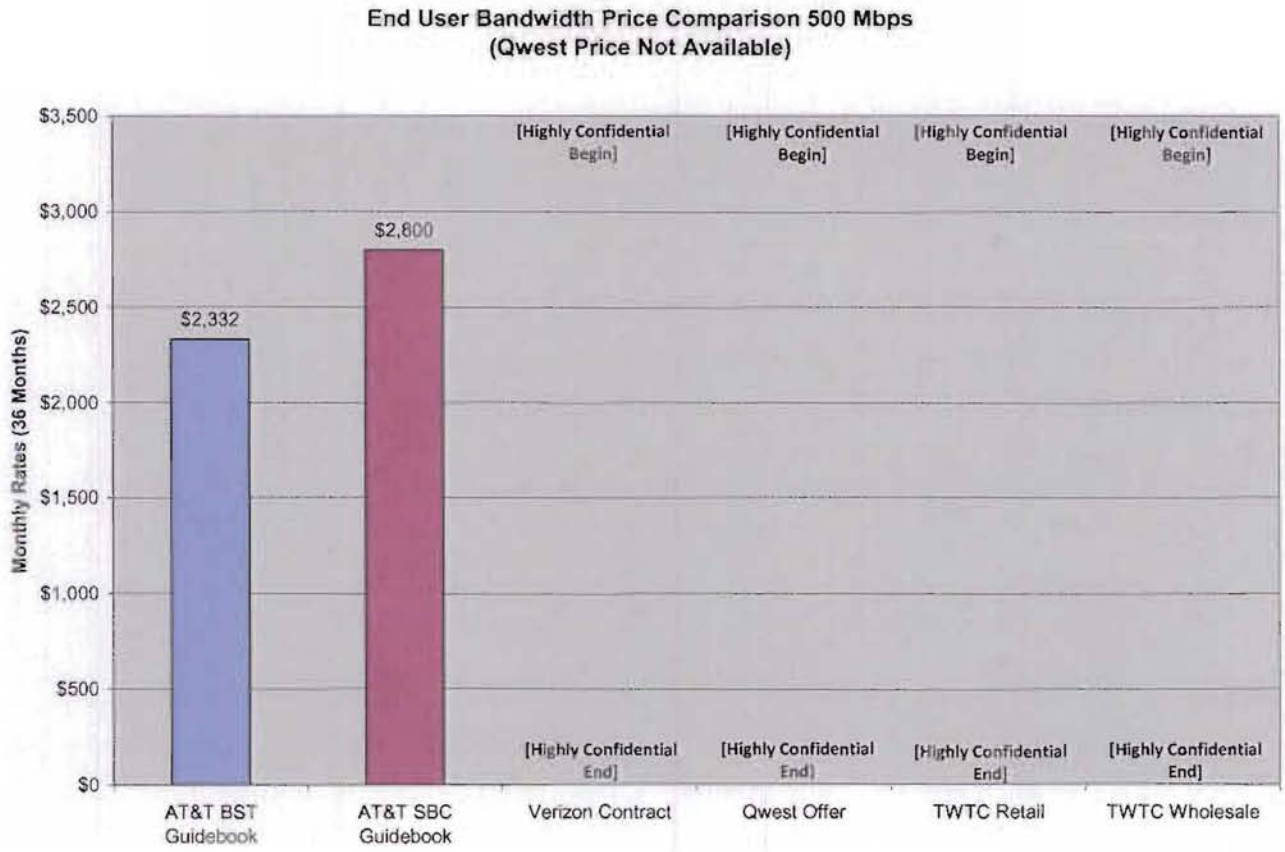
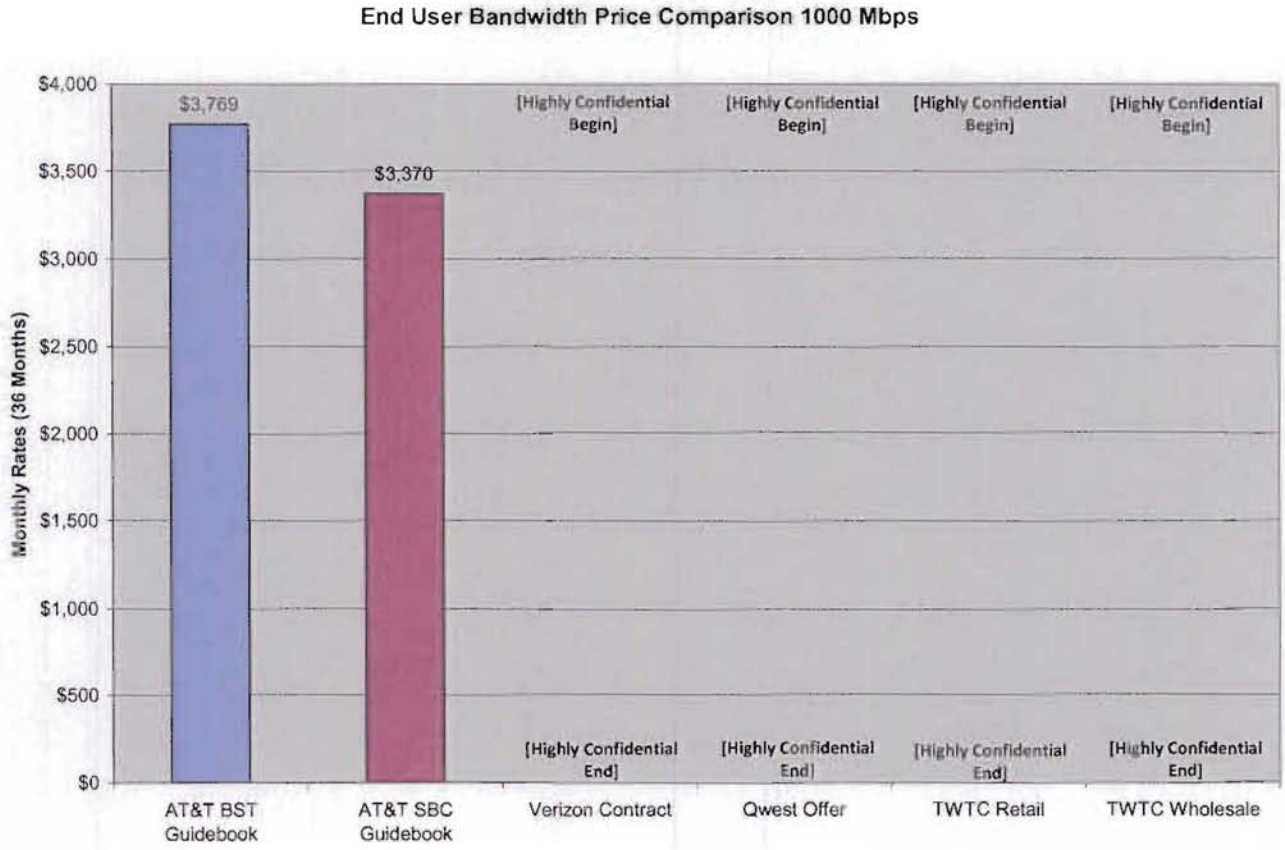

End User Bandwidth Price Comparison 500 Mbps
(Qwest Price Not Available)
Monthly Rates (36 Months)
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
$2,332
$2,800
[Highly Confidential Begin]
[Highly Confidential Begin]
[Highly Confidential Begin]
[Highly Confidential Begin]
[Highly Confidential End]
[Highly Confidential End]
[Highly Confidential End]
[Highly Confidential End]
AT&T BST Guidebook
AT&T SBC Guidebook
Verizon Contract
Qwest Offer
TWTC Retail
TWTC Wholesale

Chart 5


End User Bandwidth Price Comparison 1000 Mbps
Monthly Rates (36 Months)
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
$3,769
$3,370
[Highly Confidential Begin]
[Highly Confidential End]
AT&T BST Guidebook
AT&T SBC Guidebook
Verizon Contract
Qwest Offer
TWTC Retail
TWTC Wholesale