140 West Street
27th Floor
New York, NY 10007-2109
Tel (212) 321-8126
Fax (212) 962-1687
joseph.a.post@verizon.com

Joseph A. Post
Assistant General Counsel

verizon

September 14, 2007

BY HAND

Honorable Jaclyn A. Brilling
Secretary
New York Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350

Re: Case 06-C-0897

Dear Secretary Brilling:

Attached please find the Supplemental Filing of Verizon New York Inc. in Support of Increased Pricing Flexibility for Retail Business Services. The filing includes thirteen Attachments (A-N), of which Attachments A, B, C, F, G, H, I, J, and K are confidential and are being provided pursuant to the Protective Order in this proceeding. (The confidential attachments, some of which are voluminous, are being provided on a CD-ROM.) The confidential attachments are being provided only to the Records Access Officer and to the parties who have agreed to be bound by the Protective Order in this proceeding.

A separate request for trade secret protection under the Freedom of Information Law is being submitted to the Commission's Records Access Officer so that he can provide copies of the confidential attachments to Staff.

Based on consultation with Staff, we are serving the supplemental filing, except for the confidential attachments, by e-mail and by overnight delivery service (for Monday delivery) on the parties that filed comments on the Staff White Paper in Case 05-C-0616, as well as on any additional

parties who have previously filed comments in this proceeding. Copies of the CD-ROM containing the confidential attachments will be delivered by hand to the Records Access Officer and will be sent by overnight delivery service to the parties who have signed the Exhibit to the Protective Order.

Please feel free to call me if you have any questions concerning this filing.

Respectfully submitted,

Joseph A. Post

cc: Parties (see above) (By E-Mail and Overnight Mail)
Peter McGowan, Esq.
Peter Catalano, Esq.
Mr. Charles Dickson
Mr. Michael Corso
Mr. Chad Hume
Mr. Greg Pattenaude
Mr. John Stewart
Ms. Debra Labelle

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

JOSEPH A. POST
140 West Street — 27th Floor
New York, NY 10007-2109
(212) 321-8126

Counsel for Verizon New York Inc.

September 14, 2007

TABLE OF CONTENTS

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

These supplemental comments provide additional evidence and analysis in support of the tariff amendments filed by Verizon New York Inc. ("Verizon") on May 21, 2007, which seek limited pricing flexibility for retail business services.

First, this filing provides additional information relating to the business services offered by intermodal providers in New York. In particular, we provide new information on the availability of competitive fiber optic facilities and high-capacity services in Metropolitan Statistical Areas ("MSAs") within New York State (Section II); as well as a detailed discussion of the technical capabilities of cable networks and the business services offered by cable companies (Section III). The discussion in Section III refutes two frequently-made claims about cable companies: that their residence-focused networks do not "reach" business locations, and that they are unable to offer the services needed by the broad "middle" of the retail business market — *i.e.*, those customers that lie above the individual-line "mass-market," but below the domain of businesses large enough to be served efficiently through dedicated high-capacity fiber-optic facilities. Rather, as we show, cable companies can serve and are serving that middle market, and have announced plans to greatly expand their presence there.

This evidence supplements the data provided both in our May 21, 2007 filing and in our earlier (2006) request for business pricing flexibility,[1] and confirms that Verizon is subject to substantial actual

[1] As explained in our May 21, 2007 filing, Verizon filed tariff amendments in 2006 that sought to extend to retail business services the same type of pricing flexibility as the Commission had previously authorized for virtually all non-basic retail *residence* services in its *Competition III Order*. (Full citations to the *Competition III Order* and to other frequently-cited cases and authorities are provided in the Appendix to this filing.) Verizon's 2006 filing

(continued ...)

and potential competition for the *full range* of retail business services that it provides — competition that obviates any need for detailed substantive review of price changes by the Commission and that thus supports Verizon's request for increased pricing flexibility.

Second, in Section IV, below, we discuss the question of how the retail business products offered by Verizon should be grouped for purposes of competitive analysis. We present an approach that analyzes this issue in terms of elasticity of supply, and show that the existence of multi-functional competitive platforms that can provide the full range of services demanded by retail business customers warrants treating those services as comprising a single, unitary product group for competitive analysis purposes. Nevertheless, for convenience, and to conform to the approach taken by the Commission in the MCI/Verizon *Merger Approval Proceeding*, we also discuss competitive issues here in terms of two subgroups of products within the larger universe of business services: (a) small, "mass-market" business products (*i.e.*, products provided to customers with four or fewer access lines); and (b) products utilized by "Enterprise" customers, a term that is used in a variety of ways but that is defined for purposes of this filing to include all business customers above the mass-market cutoff, including what are commonly referred to as "medium" and "large" business customers. (Also, where appropriate, we discuss medium and large Enterprise customers separately.) As we show, the record of this proceeding provides ample

---

(...continued)

drew vociferous opposition from its competitors, and in December 2006 the company voluntarily withdrew it, with a view towards modifying it to meet some of the objections and resubmitting it at a later time. Thus, that filing was never ruled on by the Commission. The pending (May 21, 2007) tariff filing seeks significantly narrower relief than Verizon sought in 2006 — for example, upward pricing flexibility would generally be limited to a ceiling of 25% per year, and would be constrained by a geographic "uniformity" requirement.

The May 21, 2007 filing took as its starting point the record that was created in connection with the 2006 filing, including particularly two reports prepared by National Economic Research Associates, Inc. ("NERA"). Thus, the record that Verizon now tenders in support of its pending request for business pricing flexibility includes: (a) the two NERA reports (and related information and legal discussion filed in connection with those reports); (b) the additional data and analysis that accompanied the May 21, 2007 tariff amendments; and (c) the supplemental information provided in this filing.

support for the conclusion that *all* of the relevant retail business services, however those services are grouped, are fully competitive in New York.[2]

As we've explained in our earlier filings, the Commission's review of the record in this proceeding should be governed by the regulatory and policy framework that it established in its prior orders, particularly the *Competition III Order*. Under that framework:

- "The freedom to change rates rapidly to best reflect demand and costs is consistent with a competitive market," and therefore 25% upward pricing flexibility, price changes on one day's notice, and individual case basis pricing "are appropriate for dominant providers for competitive services during the transition period [to competition]."[3]
- A static, backward-looking approach to competition that is based on current market shares must give way to a forward-looking, dynamic framework based on contestable markets theory. As the Commission explained, that theory "indicates that dominant providers will refrain from monopoly pricing and cost cutting on service equality if competitors can quickly enter and take away a significant share of the incumbent's customers in response to such supra normal profit seeking behaviors."[4]
- Increased regulatory parity between Verizon and its competitors supports the operations of a competitive market and thus promotes the public interest in the deliver of customer benefits.[5]

---

[2] Because of Verizon's uniformity commitment for the exercise of pricing flexibility, the competitive analysis should be conducted at a statewide level. This is consistent with the approach taken in the *Competition III* proceeding, which granted pricing flexibility for the State as a whole (even though it considered certain wire-center-level data in assessing the extent of competition).

[3] Case 94-C-0095, "Opinion and Order Adopting Regulatory Framework" (issued and effective May 22, 1996), at 29 & n.2. The *Framework Order*, now over a decade old, was intended to set policy for a period of *transition* to competition. *A fortiori*, the measures that it outlined are the minimum that are required in the far more aggressive, pervasive, and better-established competitive environment that exists today.

[4] *Competition III Order* at 40 n.93. On the relevance of potential competition in a contestable market framework, *see also id.* at 40 ("Similarly, while the mere existence of potential competitors does not create a market, given the facts here, actual and potential competitors are constraining the ability of incumbents to exercise market power in setting prices."). The FCC has concluded that competitive presence is established by the ability of a competitor to provide service "within a commercially reasonable time." *See, e.g., Qwest Forbearance Order* ¶ 69 & n.156; *Alaska Forbearance Order* ¶¶ 32, 36. *See also* United States Department of Justice and Federal Trade Commission Horizontal Merger Guidelines (1992) § 3.2 (http://www.usdoj.gov/atr/public/guidelines/horiz_book/32.html) (committed entry alternatives are "timely" if they "can be achieved within two years from initial planning to significant market impact").

[5] *See, e.g., Competition III Order* at 6 (in initiating the *Competition III* proceeding, the Commission "expressed [its] intention to eliminate, consistent with the public interest and to the extent practicable, the asymmetrical aspects of regulation so as to treat each telecommunications provider . . . as even-handedly as possible given the legal

(continued ...)

Although the record here includes a great deal of information that conclusively demonstrates the scope, pervasiveness, and strength of competition in the retail business market in this State, it is important for the Commission to recognize that additional detailed data on the deployment of competitive facilities and on the business plans of Verizon's competitors is inaccessible to Verizon, because it is in the hands of the competitors themselves. Those competitors have not made this evidence available to Verizon or to the Commission — either in the *Competition III* proceeding or in connection with the Commission's review of Verizon's 2006 business pricing flexibility filing.[6] The Commission's assessment of the record must reflect this reality, and it must preclude Verizon's competitors from exploiting their unique access to relevant information in order to frustrate the Commission's pro-competitive policies. In light of the substantial *prima facie* case that Verizon has presented concerning the presence of competition in New York — and also in light of the competitors' exclusive control over relevant evidence, and their lack of incentive to produce such evidence — the burden is on the competitors themselves to come forward with credible evidence rebutting Verizon's case by demonstrating that they have no interest in serving or ability to serve the retail business market.[7] Put another way, any *failure* on the part of competitors to

---

(..continued)

framework."); *Qwest Forbearance Order* ¶ 47 (forbearance from dominant carrier regulation will enhance competition and is in public interest; "[i]n these environments that are competitive for end users, applying these dominant carrier regulations to Qwest limits its ability to respond to competitive forces and, therefore, its ability quickly to offer consumers new pricing plans or service packages."), *id.* ¶ 78 ("Once the benefits of competition have been sufficiently realized and competitive carriers have constructed their own last-mile facilities and their own transport facilities, we believe that it is in the public interest to place intermodal competitors on an equal regulatory footing by ending unequal regulation of services provided over different technological platforms.").

[6] Indeed, presumably in order to maintain their distance, preserve their deniability, and insulate themselves from discovery, no individual cable company has even filed comments in this proceeding. Cablevision, for example, has preferred to appear indirectly, through its CLEC affiliate Lightpath.

[7] *See, e.g.*, Case 98-C-1357, "Order on Unbundled Network Element Rates" (issued and effective January 28, 2002), at 112-13 (upholding, as "correct and consistent with longstanding practice," ALJ approach under which "while Verizon bears the burden of proof, its opponents have the burden of going forward with evidence challenging particular aspects of Verizon's study").

provide relevant evidence concerning their facilities and business plans in this proceeding should give rise to a presumption or inference that such evidence would support Verizon's case and undermine their own.[8]

I. THE RECORD IN THIS PROCEEDING AMPLY DOCUMENTS THE SCOPE, EXTENT, AND STRENGTH OF COMPETITION FOR RETAIL BUSINESS SERVICES IN NEW YORK

In order to lay the groundwork for the discussions of fiber deployment in Section II, and of cable company capabilities and offerings in Section III, we present below a brief overview of the evidence that Verizon has already presented in this proceeding, supplemented with more recent data that reinforces and corroborates that evidence.

The analysis of competition for business services that Verizon presented in its 2006 and May 2007 filings followed the framework developed by the Commission in its *Competition III Order*.[9] In authorizing residence pricing flexibility in that order, the Commission relied on the statewide availability of competing platforms — including cable networks, wireless networks, broadband networks that could be used to provide application-based VoIP services, and CLEC switches — that served as enablers for competitive service offerings. The Commission also found that the conclusions that could be drawn from the widespread presence of these competitive platforms were corroborated by the fact that "[m]any consumers are taking advantage of these [competitive] options and are reaping the benefits of technology and competition; as a result, former monopoly providers are losing customers, lines, usage, and revenues."[10]

---

[8] *See, e.g., International Union, UAW v. NLRB*, 459 F.2d 1329, 1336 (D.C. Cir. 1972) ("[W]hen a party has relevant evidence within his control which he fails to produce, that failure gives rise to an inference that the evidence is unfavorable to him.").

[9] For a fuller discussion of the *Competition III* framework, *see* Case 06-C-0897, Letter from Joseph A. Post to Honorable Jaclyn A. Brilling (August 31, 2006); Case 06-C-0897, "Verizon New York Inc. Tariff Filing to Implement Limited Pricing Flexibility for Business Services — Attachment 1: Description and Justification" (May 21, 2007).

[10] *Competition III Order* at 35 (footnote omitted). On losses of access lines and revenues, *see also id.* at 54-55.

Utilizing this framework, the two *NERA Reports* and the *Vasington Report* demonstrated that alternative platforms that can be used to provide competitive business services are widely available within New York State, and that as a result Verizon has lost significant numbers of access lines and substantial revenues to its competitors.[11]

Cable Networks.[12] Cable companies have made substantial expenditures to upgrade their ubiquitous video distribution networks in order to provide both broadband data connections and Voice over IP ("VoIP") telephone services to their residence and business customers. Industry analysts and the cable Multiple System Operators ("MSOs") themselves have proclaimed that the MSOs intend to leverage their investments in their hybrid fiber/coaxial ("HFC") networks by attempting to capture a significant portion of the market for business services. Indeed, shortly after we made our May 21, 2007 filing, Time Warner formally announced that it would expand its presence in the voice market for small and medium sized businesses:[13]

> Time Warner Cable Inc. said on Monday it will expand its phone services for small and medium-sized businesses by the end of 2007 to all of its markets, except those acquired from Adelphia Communications Corp.
>
> Time Warner Cable Chief Operating Officer Landel Hobbs said at a Deutsche Bank investor conference that the No. 2 U.S. cable company aims to exploit a $12 billion to $15 billion market opportunity.
>
> * * *
>
> Hobbs said commercial phone services would be a key growth area for the company from 2008, once the services are launched.

---

[11] *See generally First NERA Report* at 1-4, 44-45. On the substitutability of intermodal services for conventional service, *see* discussion in *Second NERA Report* at 15-16.

[12] The following discussion is based on *First NERA Report* at 4-13; *Second NERA Report* at 24-27; *Vasington Report* at 4-10.

[13] "Time Warner Cable to Expand Business Phone Service," Reuters, June 4, 2007 (http://www.reuters.com/article/technology-media-telco-SP/idUSN0448003320070604). Of course, although Time Warner is a recent entrant into the business voice-services market, it has been offering commercial broadband data services for some time.

> "This year will be what I call the launch year," said Hobbs. "The reason we're so excited about it is it leverages our existing (cable) plant."
>
> Time Warner Cable has previously said its commercial phone service business is growing at a rate of about 50 percent annually in several markets across the country.
>
> Major cable rivals like Comcast Corp. . . . and Charter Communications Inc. . . . are also increasing their focus on commercial services, targeting a key revenue stream for phone companies like AT&T Inc. . . . and Verizon Communications Inc. in a market estimated at $100 billion.

Cablevision's Chief Operating Officer stated in 2005 that "'small business is a huge opportunity for us,' particularly in view of the fact that small and medium size business customers are 'sitting in front of our HFC plant.'"[14] One industry analyst estimated that nearly 60 percent of "small-to medium-sized businesses (SMB) are located within a few hundred feet of the local hybrid fiber/coaxial network."[15] In 2006, the same Cablevision official stated that the business market is "a whole new opportunity for us and we're going after it aggressively."[16]

According to a report in *Network World*, "Cablevision Systems, a champion of reaching out to small- and medium-sized companies, sees business communications as a $6 billion opportunity in its footprint, basically the New York city metropolitan area. . . . In the past two years, Cablevision spent months identifying all the businesses on every street that it could target for its communications services. It put 600,000 'serviceable' companies in its database, according to CEO Tom Rutledge — that is, a Cablevision cable ran in front of the business's building."[17]

Aside from their HFC cable plant (in which they have deployed increasing amounts of fiber in order to be able to provide high-bandwidth Internet access services), cable companies such as

---

[14] Quoted in *First NERA Report* at 7.

[15] Quoted in *First NERA Report* at 8.

[16] Quoted in *Second NERA Report* at 24.

[17] Quoted in *Vasington Report* at 9-10.

Cablevision, Time Warner, and RCN have also invested -- directly or through affiliates such as Cablevision's Optimum Lightpath -- in all-fiber customer connections utilizing Metro Ethernet technology to provide high-capacity advanced services to medium and large businesses.[18]

Cable companies actively advertise to business customers, and E911 data confirms that cable companies are already serving a significant number of business access lines in the State.[19]

Fiber networks. As noted above, cable company affiliates have deployed significant fiber networks in New York, which they utilize to provide high-capacity services to medium- to large-size business customers. Other competitors have also deployed fiber in the State, which they utilize to provide

---

[18] ***Cablevision.*** Aside from the sources cited in our prior filings, *see* www.optimumlightpath.com ("Drawing on the power of our own fiber-to-the-premise network, we deliver converged, IP-based data, Internet, and voice solutions to businesses in New York, New Jersey and Connecticut."); www.optimumlightpath.com/Interior187-6.html (more than 50 percent of municipalities in New York's Westchester County using Lightpath's advanced communications solutions, delivered over a 100 percent fully fiber optic network); www.optimumlightpath.com/Interior305.html; www.optimumlightpath.com/Interior187-8.html; www.optimumlightpath.com/Interior187-9.html (Cablevision announced that more than 50 percent of hospitals in the New York metropolitan area are now using Optimum Lightpath for high capacity and high bandwidth integrated IP data, Internet and voice solutions). Cablevision COO Tom Rutledge has stated that Cablevision has "more fiber in the [New York/New Jersey/Connecticut] tri-state area" "than any phone company" (www.thestreet.com/newsanalysis/techtelecom/10310196.html), and that Cablevision already has fiber service to twice as many buildings in the metropolitan New York footprint as Verizon does (www.multichannel.com/article/CA6374465.html). ***Time Warner.*** Time Warner Cable Business Class has a "high-capacity fiber network" with a "national presence" (http://www.twcbc.com/MediaLibrary/1/1/Content%20Management/Products%20and%20Services/Data/pdf/dia_brochure.pdf). It offers MEF-certified and compliant Ethernet services in New York and other markets. (*See Time Warner Cable Among First Service Providers to Earn Ethernet Certification*, June 20, 2007, http://www.twcbc.com/Corporate/News/PressReleases/PressRelease.ashx?pr=27.) ***RCN.*** RCN Business Solutions relies on its "advanced, dense, metropolitan fiber optic network for: . . . Enterprise markets: hospitality/lodging, broadcast media; education; finance; construction; and real estate vertical markets . . . and Government markets: federal, state and local municipalities." (RCN Press Release, *RCN Enhance Company's Business Solutions Division, Targets Enterprise, Wholesale Carriers & Government*, October 10, 2005, http://www.rcnbusinesssolutions.com/about/press/release_2005-10-10.php.)

Several MSOs have joined the MetroEthernet Forum ("MEF"), whose mission is to accelerate the adoption of carrier class networks and services. MEF members include Optimum Lightpath, Time Warner Telecom, and Cox Business Services. (Indeed, Cablevision holds a seat on MEF's Board of Directors.) Over the past few years, MSOs have gained certification as providers of MEF technology.

[19] *See First NERA Report* at 11; *Vasington Report* at 5.

their own retail services to businesses, and which some make available to other providers on a wholesale basis.[20]

Wireless networks.[21] Networks providing mobile wireless coverage are available ubiquitously throughout the State. Those services are utilized by businesses as well as by individuals. Small businesses in the service industry, whose proprietors need to spend much of their time with customers or otherwise away from a fixed location, may well use cellular service as their primary or sole telephone service. Larger businesses, while unlikely to totally "cut the cord" and meet all of their telecommunications needs through mobile wireless services, nevertheless use such services to increase the productivity of mobile workers (which may include virtually any employee required to call on customers or vendors, to work full or part time in the field, or to visit employer locations outside of his or her "home

---

[20] *See, e.g., Second NERA Report* at 7 & n.13; *id.* Exhibit 1. *See also PSC Merger Approval Order* at 33-34 (footnote omitted) ("Data presented in this proceeding show that many alternative fiber providers are present in the market."); *id.* at 45 ("[W]hile we recognize that CLEC entry into buildings can be difficult, the record before us also indicates that many buildings are served by carriers other than Verizon or MCI and that a number of alternative carriers have fiber networks deployed in New York. Staff's analysis confirmed that there are a number of alternative fiber networks that appear to be capable of serving the Enterprise market."). The FCC has also acknowledged that there is a wide range of competitors that have deployed "extensive local fiber networks" in Verizon's region. *FCC Merger Approval Order* ¶ 44; *see also id* ¶¶ 30, 45.

A recent ad for XO Communications states that "[w]e've achieved what we set out to do: Complete our national, award-winning OC-192 IP backbone, all 16,000 miles of it." On the fiber network of Time Warner Telecom (which is no longer an affiliate of Time Warner Cable), *see* www.twtelecom.com/about_us/networks.html ("Connecting Your Business to More Business begins by delivering high speed, secure, and reliable communications over our more than 24,000 miles of fiber networks, to business in 75 markets spanning 30 states and D.C. We [Time Warner Telecom] connect to more than 7,400 buildings and pass thousands more, providing us a unique opportunity to meet the growing demand for new data services and to capture increased market share. Our optical networks are fast, powerful, flexible, secure and highly reliable to deliver a comprehensive suite of voice, data, dedicated Internet and integrated communications services to our customers.")

Additional data on competitive fiber deployment is presented in Section II, below.

[21] The following discussion is based on *First NERA Report* at 13-20, 29-30; *Second NERA Report* at 16-21; *Vasington Report* at 12-14. More recently, on August 1, 2007, Clearwire Corporation announced that it was "unwiring Syracuse" with its wireless broadband offering. "The company announced today the official launch of its wireless high-speed Internet access and phone service to the city, its first market deployment in New York State. Residents and businesses now have a fast, simple, portable, reliable and affordable alternative to traditional dial-up, cable and DSL" (http://phx.corporate-ir.net/phoenix.zhtml?c=198722&p=irol-newsArticle&ID=1034908&highlight).

office") — thus displacing usage and associated revenues from conventional landline services such as those provided by Verizon and constraining prices on those services.

The evidence shows that business wireless usage is substantial and growing. Wireless providers are responding by offering a wide variety of packages and services aimed at meeting the needs of business customers. Meanwhile, larger businesses have begun to utilize *fixed* wireless services to meet their communications needs.[22]

Broadband networks and application-based VoIP services.[23] Broadband internet access service is offered in New York by telephone companies, cable companies, and other providers. Large majorities of New Yorkers can choose from among multiple broadband providers. Broadband access has been consistently increasing in New York, as coverage, speeds, and numbers of providers expand. These generic broadband services provide a platform on which application-based VoIP services can be provided by unaffiliated carriers. Such third-party VoIP services are increasingly being used by business customers.

Wireline CLEC networks.[24] CLECs utilize their own switches, Verizon UNEs and special access services, and collocation at Verizon wire centers, in order to offer competitive services to business

---

[22] FiberTower — which holds 39 GHz spectrum that covers 99 percent of the United States, 24 GHz spectrum that covers the top 77 metro areas, and 18 and 23 GHz spectrum to serve suburban and rural markets (*see* FiberTower, *Company - Spectrum Assets*, http://www.fibertower.com/corp/company-spectrum-assets.shtml) — offers enterprises and government agencies access services that "include wireless equivalents of NxT1, DS3, OC3 and Carrier Ethernet." (FiberTower, *Solutions – Solving the Access Network Bottleneck*, www.fibertower.com/corp/solutions-access.shtml). Towerstream offers service for small businesses (T-1 to 5 Mbps), medium-sized businesses (10-45 Mbps), and enterprises (100-1,000 Mbps) (www.towerstream.com/content.asp?whatweoffer). Nextlink, which is a subsidiary of XO that has spectrum in the 28-31 GHz bands covering "95% of the population in 75 of the top markets in the United States," has deployed broadband wireless networks in 37 markets — up from 12 markets the year before — and states that it "supports both voice and data traffic at connection speeds ranging from 1.544 Mbps (T-1) up to 155 Mbps (OC-3)" (www.nextlink.com/about_nextlink.htm; www.nextlink.com/news_70.htm; www.nextlink.com/about_nextlink.htm).

[23] *See First NERA Report* at 21-27; *Second NERA Report* at 21-23; *Vasington Report* at 10-12.

[24] *See First NERA Report* at 27-29; *Vasington Report* at 14-18.

customers. Numerous CLEC switches, and numerous CLEC collocation arrangements, are located in virtually every MSA within Verizon's service area.

Satellite Service Providers. Although satellite-based services were not discussed in detail in our prior reports, following our May 21, 2007 filing, MSTI Holdings issued the following release:[25]

> MSTI Holdings, Inc. . . ., a carrier class communications technology company that specializes in providing true "quadruple play" services to residential, hospitality and commercial properties, announced today that its wholly-owned subsidiary, Microwave Satellite Technologies, Inc. . . ., will provide its services to Broad Street Development's 370 Lexington Avenue in New York City, a building with approximately 85 commercial tenants. The agreement represents MST (NuVisions'(TM)) initial offering of its "QuadPlay" services to the commercial telecom market with NuVisions(TM) services expected to launch at the property beginning in August of 2007. . . .
>
> MST (NuVisions(TM)) will install a full lineup of television programming along with High Speed Internet Access (HSIA) and Digital Voice. MST (NuVisions(TM)) will also act as a consultant for tenants, offering other telecommunications solutions such as LAN/WAN, Voice Network Design, Implementation, and more. Prior to its agreement with MST (NuVisions(TM)), 370 Lexington Avenue had never worked with a bundled telecommunications service provider.

* * *

As this summary shows, the alternative service providers in the retail business market include substantial companies with significant strategic resources and operational scope and scale, which make them well able to compete with Verizon.[26] It is noteworthy that most of this competition is facilities-based — *e.g.*, competition from cable companies using their own networks, from wireline competitors

[25] "MST (Nuvisions™) Enters Commercial Telecom Market," July 12, 2007 (http://www.tmcnet.com/usubmit/2007/07/12/2778450.htm).

[26] *See generally First NERA Report, Appendix*. Attachment M to this filing is a table prepared submitted by the Verizon companies in pending FCC proceedings in which those companies seek forbearance from certain federal regulatory requirements. The table compiles statements made by the competitive providers that filed comments in the forbearance proceedings, demonstrating their success in the marketplace. Many of these statements refer directly to business services. *See also* Attachment L, discussed below.

using their own switches and (in many cases) their own access lines or circuits, and from VoIP providers utilizing a variety of broadband networks deployed by competing providers.[27]

As a result of this pervasive competitive presence, Verizon business line losses and corresponding growth by competitors are occurring in every area of the State served by Verizon, not just in the Metro LATA and not just in urbanized areas of the State.[28] Line losses have occurred for small- and medium-sized customers (Verizon's "General Business" market) as well as for larger "Enterprise" customers.[29]

Although there has been some growth in the volume of non-switched services provided by Verizon, the data show that *wholesale* sales — that is, revenues from non-switched services purchased by other carriers and used to compete against Verizon's retail business offerings — comprise the bulk of Verizon's non-switched revenue, and the wholesale proportion of non-switched revenue has increased over time. Thus, the non-switched revenue statistics confirm the overall picture of the decreasing influence of Verizon and the growing presence of Verizon's competitors in the market for retail business services.[30]

Finally, as part of its May 21, 2007 filing, Verizon submitted an elasticity/revenue analysis, based on the methodology set forth in Staff's recent White Paper in Case 07-C-0349, as adapted to business services. The analysis shows that Verizon could not sustain long-term increases in the price of business

---

[27] Nevertheless, substantial additional competition is provided by companies utilizing Verizon wholesale services, such as resale, Wholesale Advantage, UNEs, and private line and special access services — frequently in combination with their own facilities. *See Qwest Corp. v. FCC*, 482 F.3d 471, 480 (D.C. Cir. 2007) ("the *TRRO* explicitly recognized that an ILEC's tariffed offerings could, in certain circumstances, be an avenue for competitive entry"; there is no reason to disturb the FCC's predictive judgment, in the *Qwest Forbearance Order*, that the incumbent has "a strong incentive to maximize use of its network by setting attractive prices on its wholesale alternatives").

[28] *First NERA Report* at 31-44; *Second NERA Report* at 3-4, 8-9, 12-13; *Vasington Report* at 14-16, 18-20. The reliability of E911 data as an indicator of competitive activities is discussed in the *Second NERA Report* at 10-13 and in the *Vasington Report* at 23.

[29] *See First NERA Report* at 33-35; *Vasington Report* at 18-190.

[30] *Second NERA Report* at 1-2, 4-8; *Vasington Report* at 20-23.

services without sustaining significant revenue losses due to competitive and customer demand response.[31]

Despite the voluminous data filed by Verizon, Verizon's CLEC and cable-company competitors have provided none of their own data on facilities location and capabilities, the customers they serve, or on their own business plans.

II. SUPPLEMENTAL DATA CONFIRMS THE AVAILABILITY OF HIGH-CAPACITY FIBER FACILITIES AND SERVICES IN NEW YORK

Competitive fiber optic facilities have been deployed in New York by cable companies and other wholesale and retail providers, making available an additional, robust network platform for the provision of service to business customers, particularly at the larger end of the customer spectrum. Verizon supplied maps displaying a subset of the competitive fiber located in New York MSAs ("Metropolitan Statistical Areas") in the Exhibit to the *Second NERA Report*.

Since the preparation of that report, more detailed data on fiber-optic deployment (including fiber routes and lit buildings) has been filed by the Verizon Telephone Companies in two FCC proceedings — WC Docket No. 06-172, in which those companies seek relief from certain federal regulatory requirements in a number of MSAs in New York and other states, and WC Docket No. 05-25, in which the FCC is considering issues related to the pricing of interstate special access services. Because the fiber deployment data are relevant to this proceeding as well as to the two federal proceedings, copies of that data are provided in the attachments to this filing. (Although overlapping, the data filed in the two proceedings are complementary. The maps accompanying the forbearance filing — which relate only to the MSA covering the New York metropolitan area — identify the specific providers of facilities on

[31] *Vasington Report* at 23-26 & Appendix; *see also* Case 06-C-0897, "Verizon New York Inc. Tariff Filing to Implement Limited Pricing Flexibility for Retail Business Services — Attachment 1: Description and Justification" (May 21, 2007), at 20-21.

particular fiber routes, while the maps accompanying the special access filing are somewhat more recent[32] and also cover three additional New York MSAs: Buffalo, Albany, and Syracuse.)

The relevant materials from the forbearance filing are listed in Table 1, below:

TABLE 1

	ID IN FORBEARANCE FILING	DESCRIPTION
ATTACHMENT A	Attachment A, Excerpts from Lew, *et al.* Declaration (¶¶ 1-5, 10, 46)	Description and summary of fiber optic data in Exhibits
ATTACHMENT B	Attachment A, Exhibit 5	Fiber maps
ATTACHMENT C	Attachment A, Exhibit 6	Fiber maps
ATTACHMENT D	Attachment A, Exhibit 8	Map — Lightpath

Fiber deployment data from the special access proceeding are listed in Table 2, below:

TABLE 2

	ID IN SPECIAL ACCESS FILING	DESCRIPTION
ATTACHMENT E	Attachment F	Declaration of Kenneth J. Martinian concerning preparation of fiber deployment maps
ATTACHMENT F	Attachment F, Exhibits 1-4	Tables of fiber providers (data related to New York, Buffalo, Albany, and Syracuse MSAs only)
ATTACHMENT G	Attachment H-1	Fiber deployment data — NY MSA
ATTACHMENT H	Attachment H-13	Fiber deployment data — Buffalo MSA
ATTACHMENT I	Attachment H-14	Fiber deployment data — Albany MSA
ATTACHMENT J	Attachment H-17	Fiber deployment data — Syracuse MSA

We also provide here two other items from the special access proceeding that are highly relevant to the issues in this proceeding. Attachment K is a declaration filed by David K. Brown and Ihab S. Tarazi, both of Verizon Business, in that proceeding.[33] It summarizes Verizon Business's observations and experience concerning the substantial competitive presence in the market for Enterprise services,

[32] The forbearance materials were filed on September 6, 2006, while the special access materials were filed on August 8, 2007.

[33] The Declaration was Attachment C to the FCC special access filing. Verizon Business is a line of business of certain Verizon companies that focuses on providing service to larger business and governmental customers.

including the competition from cable providers for business services. That experience confirms that there are multiple alternative suppliers of competitive fiber wherever substantial demand exists.

Finally, Attachment L sets forth detailed background information on numerous providers of business services.[34] Although this data includes providers who operate in all areas of the country, many of them are readily recognizable as companies with a substantial presence in New York. In any event, the fact that cable companies, fixed wireless providers, and others offer specific types of business service within the United States demonstrates that such services are feasible, economical, and undoubtedly available in New York, which includes some of the country's most concentrated and thus most potentially lucrative markets.

III. CABLE COMPANY NETWORKS ARE ABLE TO MEET, AND DO MEET, THE FULL RANGE OF TELECOMMUNICATIONS NEEDS OF BUSINESS CUSTOMERS

Cable is a particularly serious competitor for Verizon's retail business services in New York, as the data assembled in the two *NERA Reports*, the *Vasington Report*, and Attachment L confirm.[35] One analyst estimates that the cable industry "will grow its commercial revenue base from $1.3 B this year to $2.0B in '07 and $3.2B by '08."[36] Cable companies already advertise themselves as being able to meet the needs of all segments of the business market.[37] They and their fiber-based affiliates have announced

---

[34] This document was Attachment G to the special access filing.

[35] A recent "webinar" (web seminar) on "Cable Commercial Services: Tackling the Telcos on Their Home Turf," published by Cable Digital News, provides a great deal of technical and strategic background on cable-company entry into the business services market, and in our opinion is well worth viewing. (*See* Appendix, below, for a complete citation to the webinar. Registration on the web site is required, but painless.) It concludes that cable companies are well-positioned to address this market.

[36] *Buckingham Report* at 18.

[37] *See, e.g., First NERA Report* at 11 (quoting statement by Ken Fitzpatrick, senior vice president of business service for Time Warner, that business voice services are currently "being tested at businesses in New York State" and have price plans that "would target *three business categories: small, medium, and enterprise.*"); *Second NERA Report* at 24 (quoting recent article noting that Cablevision is "gearing up to attack the commercial-telephone market full-bore, eyeing *large enterprise customers as well as small-to-medium-sized business*"); *Vasington Report* at 5 (quoting Cablevision 10-K stating that "Lightpath provides converged data, Internet and voice solutions to *mid-sized and large businesses*"). Tom Rutledge, Cablevision's COO, has stated that his

(continued ...)

in industry forums and to investment analysts that their business plans contemplate winning significant numbers of additional customers from Verizon in the small business and Enterprise markets. Analysts believe that the MSOs are well-positioned to succeed in the business market,[18] and a variety of publicly available sources, discussed in greater detail below, make it clear that the MSOs can and currently do offer a full range of business services.

In light of these facts, it is hardly credible for cable companies to claim that they do *not* have the ability to provide a full range of services to substantial numbers of business customers within a commercially reasonable period. Certainly the FCC has concluded that they have that ability. In two recent forbearance orders, the FCC has determined that cable companies are capable of serving both the mass-market and Enterprise segments within the retail business markets, and that they provide current and potential competition within those markets. In the *Qwest Forbearance Order*, the FCC found that Cox's

---

(...continued)

company has developed "a *full suite of high-end and middle and low market products* in IP form to go into those markets and compete against the incumbent phone operator with superior products, superior service and a superior reputation in the marketplace." (Thomson Street Events, *CVC – Cablevision Systems Corp. at Banc of America Media, Telecommunications & Entertainment Conference*, Transcript, March 28, 2007, at 2, 7.) (Emphasis supplied in all quotations.)

[18] *See Buckingham Report* at 3 ("We believe a number of crucial ingredients have either fallen in place over recent months, or will shortly fall into place, to make the long promised cable entry into commercial services a reality. The recent launch of residential telephony across nearly all major cable systems finally gives the cable industry the full product portfolio it needs to address the needs commercial customers, for whom voice services still drive the bulk of purchasing decisions . . . . There are several other catalysts that we believe are fueling cable's interest in commercial services at this stage, including the vendor vacuum created by a wave of mergers and acquisitions within the telecom landscape, the growing need for higher bandwidth products beyond the standard 1.5 Mbps T1 connection provided by telecom incumbents, and the recent commercial availability of cable modems capable of handling multiple phone lines and integrating into corporate PBX systems."); Anthony Noto, *et al.*, Goldman Sachs, *Multiyear ROIC Expansion Should Drive Stocks – Comcast Top Pick*, January 3, 2007, at 13 ("Now that most of the cable companies can offer small to medium sized businesses both data and voice, we believe that the MSOs will more aggressively pursue this opportunity."); C. Whelan, Current Analysis, "Optimum Lightpath: Company Quickview," April 24, 2007 ("Lightpath "has a unique ability to mix cable plant and fiber-fed services, drawing on both sides of the market to pull customers away from the competition . . . .").

cable facilities were "capable of delivering both mass market and enterprise telecommunications services":[39]

> While Cox has captured a larger share of the mass market customers to date, in light of the record evidence of Cox's strong success in the mass market, its possession of the necessary facilities to provide enterprise services, its technical expertise, its economies of scale and scope, its sunk investments in network infrastructure, its established presence and brand in the Omaha MSA, and its current marketing efforts and emerging success in the enterprise market, we must conclude that Cox poses a substantial competitive threat to Qwest for higher revenue enterprise services as well.[40]

All of these factors are equally present in New York. It is notable that in reaching this conclusion, the FCC found that the fact that Cox's existing network did not necessarily reach every individual business location was "not . . . dispositive" in light of other evidence demonstrating Cox's incentives and ability to serve these customers.[41]

Similarly, in the *Alaska Forbearance Order*, the FCC noted, in response to a cable competitor's argument that it was not yet able to provide every kind of service the incumbent LEC could, that the competitor "has deployed a fiber optic network which gives [it] additional capabilities to serve a significant number of additional end user locations in the Anchorage study area with high-capacity or more complex telecommunications services."[42] Of course, Cablevision, Time Warner, and RCN have deployed similar networks in New York. In a footnote, the FCC added that "[a]lthough [the competitor's]

---

[39] *Qwest Forbearance Order* ¶ 66.

[40] *Id.* (footnote omitted). *See also Alaska Forbearance Order* ¶ 37. The *Qwest Forbearance Order*, and specifically the findings set forth in ¶ 66, were upheld by the Court of Appeals, which stated that it saw "nothing unreasonable in the factors invoked by the [FCC]." (*Qwest Corp. v FCC*, 482 F.3d 471, 479 (D.C. Cir. 2007).)

Although the FCC's forbearance orders are relevant here, the Commission should not lose sight of the fact that in those proceedings the FCC addressed the criteria for granting far more substantial regulatory relief (*i.e.*, forbearance from dominant carrier regulation and unbundling requirements) than is at issue here. Thus, although the circumstances under which the FCC concluded relief should be granted support the relief that Verizon seeks here *a fortiori*, the converse is not true: that is, Verizon should not be held to all of the tests required by the FCC for forbearance relief.

[41] *Qwest Forbearance Order* ¶ 66 n.174.

[42] *Alaska Forbearance Order* ¶ 36 (footnote omitted).

fiber network is not deployed as ubiquitously as its cable plant," it covered "the end user locations most likely to take services economically provided over fiber."[43] Accordingly, the FCC regarded the competitor's statements concerning its ability to migrate DS1 lines to its own cable facilities as "not dispositive."[44] The FCC went on to state that the cable competitor was able to provide over its own facilities a suite of telecommunications services that "is reasonably comparable to the services provided by [the incumbent] ACS in these wire centers. Finally, many of the arguments that [cable company] GCI raises as to why its coverage is more limited than we find above are premised on hurdles that must be crossed by most, if not all, facilities-based providers of telecommunications service . . . . For instance, GCI's need to obtain a customer's permission to access the customer premises; to install new drops to the customer's location in certain circumstances; and to demonstrate to third parties (*e.g.*, alarm monitoring companies) that its technology is compatible with theirs, are issues common to all facilities-based telecommunications providers."[45]

As we demonstrate below, there is a sound basis for these conclusions concerning the competitive significance of cable company networks in the retail business market.

A. TECHNICAL CAPABILITIES OF CABLE NETWORKS: BACKGROUND

The accompanying affidavit of Michael A. Nawrocki (Attachment N) confirms what the cable companies' own statements and activities, and the FCC's findings, make clear in any event — that HFC networks maintained by cable companies and the fiber networks maintained by their CLEC affiliates are capable of meeting all of the data and telecommunications needs of Verizon's business customers, from the smallest to the largest.[46]

---

[43] *Id.* ¶ 121.

[44] *Id.*

[45] *Id.* (footnotes omitted). *See also id.* ¶¶ 36, 37.

[46] *See also Webinar*, which discusses the relevant technologies in much greater detail.

First, cable companies' HFC networks can deliver significant amounts of bandwidth to their customers' premises using IP-based transport and routing technologies, and these capabilities will only expand as cable companies deploy fiber deeper and deeper into their network in order to meet their customers' needs for more and more bandwidth, and in order to be able to compete effectively with providers such as Verizon that utilize fiber-to-the-premises ("FTTP") technology.[47]

A decade ago, CableLabs, the research and development arm of the cable industry, introduced its first version of "DOCSIS," or the Data Over Cable Service Interface Specifications, and thus launched the cable modem revolution. DOCSIS "defines interface requirements for cable modems involved in high-speed data distribution over cable system networks . . . ."[48] Through DOCSIS, "[c]able operators can provide a variety of high-value services through an 'always-on' internet connection, including broadband Internet connectivity, *telephony*, real-time interactive gaming, and video conferencing."[49] Successive versions of the DOCSIS specifications have enabled vendors to develop cable modem equipment that delivers higher bandwidths, better service quality, improved data security, and greater symmetry between upstream and downstream bandwidth -- an important consideration for the delivery of voice services. Indeed, one of the motivations for the introduction of DOCSIS 2.0 in 2001 was "increased demand for symmetric, real-time services such as IP telephony . . . ."[50]

---

[47] In the 1990s, many MSOs began to deploy HFC networks to face the challenge of increased competition for digital cable services and high-speed Internet access services. MSOs established fiber nodes (typically serving about 500 subscribers), which were interconnected with their head-ends by fiber (while traditional coaxial cable facilities ran from the node to the customers' premises). Cable companies are now considering deepening their fiber penetration, either by splitting nodes (so that they serve smaller numbers of customers), or else by running fiber direct to the curb or to the customers' premises. Indeed, such companies already extend fiber from existing or new fiber nodes to business locations; this is the basis of the all-fiber networks advertised by the cable companies and their affiliates.

[48] *See* the DOCSIS home on the CableLabs website (http://www.cablemodem.com/).

[49] *Id* (emphasis supplied). *See also* Insight Research Corporation, "Cable Telephony: The Threat to Small Business ILEC Markets 2007-2012," April 2007, at 19 ("DOCSIS established the universal ground rules for the transmission of packets across cable networks.").

[50] http://en.wikipedia.org/wiki/DOCSIS. *See also* Insight Research Corporation, *supra*, at 19-21 (describing evolution of DOCSIS).

In August of 2006, CableLabs introduced the DOCSIS 3.0 standard, which enabled significantly increased upstream and downstream transmission speeds. Press reports indicated that vendors expected to submit DOCSIS 3.0-compatible equipment to CableLabs as early as the fourth quarter of 2007. Deployment is being put "on a fast track" by cable operators and could begin as early as the second quarter of 2008.[51]

Aside from the increasing bandwidth delivery capabilities of HFC networks utilizing DOCSIS-compatible equipment, the cable companies' fiber-based networks can deliver very-high capacity (DS3 and OC-level) services using Metro Ethernet technology.[52]

Second, the bandwidth delivered to a business customer's premises using DOCSIS-compatible cable modems can be utilized to provide a wide range of business voice services as well as data services. Of course, as the Commission recognized in the *Competition III* proceeding, the cable companies have had great success in the mass market in providing voice services over their cable modems using VoIP technology. The technical models for cable provision of VoIP service are well-established. CableLabs'

---

[51] *See* "Cable Labs Accelerates Docsis 3.0 Testing," Cable Digital News, April 16, 2007 (http://www.lightreading.com/document.asp?doc_id=121891&print=true).

[52] *See* the introductory film clip on Metro Ethernet available on the "MetroEthernetNow Channel" (http://www.gargoylefilms.com/iopostsite2/vidlist_mee1.html. *See also* http://metroethernetforum.org/CarrierEthernetinActionOverview.

It should be noted that MetroEthernet technology can be utilized on HFC networks as well as on fiber networks. "Albeit cable's Ethernet offerings up to this point largely are being delivered over their relatively small but growing fiber-based networks, MSO executives believe their existing coax plant, abundant in the first mile, is well positioned to serve commercial-class Ethernet services to the sub-10 Mbps market segment. 'The sub-10 Mbps market is one of the fastest-growing areas of Ethernet services,' says [Kristine Faulkner of Cox Business Services]. 'We intend to serve that with both our fiber as well as significantly leveraging our coax network.'" (Martin Vilaboy, "Carrier Ethernet Key to MSO Business Plans," Fat Pipe Magazine, August 17, 2007 (http://www.fatpipeonline.com/articles.php?issue_id=38).) *See also* http://www.cox.com/omaha/community/newsroom.asp#Cox_Business_Marks ("Cox Business . . . announced today that it has made its debut in the top tier of U.S. business Ethernet providers, according to Vertical System Group's latest marketing analysis. The company attributes its success to its long history of delivering Ethernet services to customers served by fiber and hybrid fiber coax (HFC).").

PacketCable specifications for delivering voice and other services over DOCSIS-compatible cable plant have been in place since the earliest days of DOCSIS.[53]

B. CABLE COMPANY PROVISION OF SERVICES TO "MASS MARKET" BUSINESS CUSTOMERS

Precisely the same technology as cable companies utilize for the provision of residence VoIP service, deployed in precisely the same way, can support the provisioning of individual-line VoIP solutions to the mass-market segment of the business market. Companies such as Cablevision (under its *nom de guerre* Optimum for Business) provide individual business VoIP lines utilizing their HFC cable plant, bundling voice with data services and providing features and calling plans targeted towards the business market.[54]

C. CABLE COMPANY PROVISION OF SERVICES TO LARGE BUSINESS CUSTOMERS

While HFC networks can support a wide range of business services, more sophisticated solutions can be provided to business customers over fiber-optic networks. Given the extensive investment in constructing fiber nodes over the last decade, cable operators can leverage existing fiber deployments by extending fiber from their fiber nodes to a business customer's location, thus offering high-speed services of 100 Mbs or higher utilizing Ethernet or other technology. Indeed, as the data described in Section II of these comments demonstrate, cable companies and their affiliates already provide all-fiber connections to

---

[53] *See* http://www.packetcable.com (CableLabs web site); http://en.wikipedia.org/wiki/PacketCable. *See also* Insight Research Corporation, "Cable Telephony: The Threat to Small Business ILEC Markets 2007-2012," April 2007, at 18 ("The PacketCable roadmap defines the MSO's high bandwidth IP network as a 'managed IP network.' In this architecture, the MSO provides video, data, and telephony services to the customer's premise in a contiguous IP stream. The managed IP network can also readily interconnect multiple cable networks together, as well as linking to the public Internet or via a gateway to the PSTN."); *id.* at 21 ("CableLabs created the PacketCable specifications to handle the functionality needed to interoperate with the PSTN.).

[54] *See, e.g.*, http://www.optimum.com/business/. Optimum for Voice provides up to eight lines per customer. Cable company VoIP offerings are documented in greater detail in the *NERA Reports*.

business customers in this manner. Moreover, the company's web pages demonstrate that they are actively offering sophisticated, high-bandwidth, fiber-based services over these networks.[55]

D. CABLE COMPANY PROVISION OF SERVICES TO "MEDIUM-SIZED" BUSINESS CUSTOMERS

It is sometimes stated that competition in the small and large business markets leaves the "medium-size" customer out in the cold, but this is not true. As noted above (footnote 55), Cablevision refers customers with as few as 21 lines to Optimum Lightpath, which presumably stands ready to meet their needs over its all-fiber network.[56] Time Warner Telecom, although not a cable company, demonstrates the feasibility of offering T1-level service over fiber networks such as those owned by Lightpath. Time Warner Telecom offers "Voice T1," a service that "provides access to the Public Switched Telephone Network (PSTN) through reliable, state-of-the-art switches that will serve your business needs into the future. Voice T1 is installed in 24 channel increments and connects your digital

---

[55] For example, Optimum for Business's web site includes a "Product Chooser" page that directs business with 21 lines or more to the Optimum Lightpath web site, through which Cablevision offers fiber-based solutions. (http://www.optimum.com/business/chooser.jsp.) *See also* www.optimumlightpath.com/Interior326.html; www.twtelecom.com/cust_solutions/services/biz_switched.html; Greg Galitzine, "Optimum Lightpath Delivers Voice Over Metro Ethernet," May 15, 2007 (http://www.tmcnet.com/enews/e-newsletters/Show-Daily/20070515/6886-optimum-lightpath-delivers-voice-over-metro-ethernet.htm) (describing launch of Lightpath's "Voice over Metro Ethernet service, which is being hailed as the first-ever carrier-class voice service delivered over Metro Ethernet by a cable MSO. Optimum Lightpath's Voice over Metro Ethernet is offered as a managed voice service and is the result of a collaborative effort among Optimum Lightpath, NEC Unified Solutions and Cisco. The service will be delivered over Optimum's fiber optic network, with Cisco's Communications Manager and Cisco CallManager Express providing call processing for IP phones and NEC Unified Solutions handling the network and equipment service management.").

Vertical Systems Group concluded that in 2007 "[t]he dense availability of low cost metro services boosted share for many regional U.S. Ethernet providers, including MSOs. Additionally, the aggressive deployment of new fiber infrastructure for residential applications enabled broader accessibility of native Ethernet services for adjacent business sites." Vertical Systems Group, "Mid-Year 2007 Market Share Results for U.S. Business Ethernet Services" (http://www.verticalsystems.com/particles/stat-flash-0807-ethernetshare.html). Among the top providers are Cox Business (8.9% port share) and Time Warner Telecom (13.7%). (*Id.*)

See also sources cited in footnote 18, above.

[56] Lightpath offers an Internet/Voice Bundle with seven bandwidth options, the lowest of which, 5 Mbps, would seem to be eminently suitable for the voice and Internet needs of a small law firm, consulting company, or similar business. *See* http://www.optimumlightpath.com/Interior210.html.

PBX or key system to Time Warner Telecom's national fiber network. Depending on your requirements Voice T1 can be provisioned with ISDN or non-ISDN digital signaling and configured as inward, outward, or two-way service."[57]

Cable MSO Cox Business Services offer a wide range of services for the medium-size business market, including Centrex service and DS0- and DS1-level digital trunks to support customer PBX systems.[58] Cox also offers a service called "Converged Access Plus," which integrates data and voice capabilities for medium-sized businesses:

> Cox Converged Access service is an advanced, next-generation solution from Cox Business Services that maximizes both your budget and your bandwidth utilization. Using state-of-the-art technology, this service provides an efficient alternative to traditional voice and data connections where capacity often sits idle on dedicated channels. With a Converged Access solution, your business uses a single symmetrical IP network connection — either 1.5 or 3.0Mbps — for voice and data traffic. This technology allows the bandwidth that is normally reserved for your voice services to be dynamically allocated for additional data capacity when one or more voice lines are inactive. In effect, it gives you additional Internet bandwidth without additional cost. You get more flexibility between your voice and data services to meet demand fluctuations that occur daily or even hourly. Plus you enjoy more convenience with combined voice and data services from one provider all on one bill. And with one fixed price for your voice and data services, you can better manage your communications budget and maximize savings.[59]

---

[57] *See* http://www.twtelecom.com/cust_solutions/services/biz_switched.html. *See also* http://www.twtelecom.com/cust_solutions/services/voice_t1.html, and the "Read more" link on that page. Similar IP-based services, both PBX-like and Centrex-like, are offered by CLECs. Packet8, for example, offers "Packet8 Virtual Office," apparently a VoIP-based, Centrex-like product that is described as a "complete business phone system" and a "hosted iPBX communications solution that delivers high quality digital voice services coupled with powerful features for small business and call centers alike." *See* http://www.packet8.net/business_services/. *See also* http://www.xo.com/products/smallgrowing/integrated/flex/index.html (describing XO Communications' IP-based "XOptions Flex" offering, which offers the customer dynamic bandwidth allocation between data and voice services, up to 32 voice lines per bundle, and the ability to "[u]tilize your existing Private Branch Exchange (PBX) connected to a Primary Rate Interface (PRI) or Digital Trunk to take advantage of VoIP-enabled capabilities and features").

[58] http://www.coxbusiness.com/mdbusiness/index.html. Although Cox is not a major MSO in the New York market, its offerings demonstrate the range of services that cable companies can provide.

[59] http://www.coxbusiness.com/pdfs/cnvrgdacs_ds.pdf. Converged Access options are available for 5-14 lines and for 10-24 lines.

Also, in June of this year, equipment vendor Vyyo announced that Cox had deployed "the Vyyo T1 over HFC solution for the delivery of Business Services in Oklahoma."[60]

> Cox deployed Vyyo XMTS V3000 headend modular systems and V311 modems for the delivery of telecom-quality T1 services over the existing Cox Oklahoma HFC infrastructure. The Vyyo "T1-in-a-Box" solution offers cable system operators a simple, cost-effective way to generate a stable, high-margin revenue stream through the deployment of business services.
>
> "Cox's ability to leverage our existing [HFC] plant investments is key to our success in serving commercial customers," said Allen Roberts, vice president of business services for Cox Oklahoma. "Vyyo's solution helps us to meet the needs of business customers using the HFC network and to prioritize the use of our fiber solutions."[61]

Many of these offerings are based on "circuit emulation," a technology offered by a number of vendors that supports the provision of T1 services over HFC networks.[62] This technology is particularly

---

[60] http://ir.vyyo.com/releasedetail.cfm?ReleaseID=250078.

[61] *Id.*

[62] *See, e.g.*, Al Johnson and Brent Levetan, "T-1 Over DOCSIS," August 1, 2006 (www.cable360.net/ct/strategy/emergingtech/18546.html). *See also* www.scientificatlanta.com/products/customers/iframe_commercialservices.htm ("The need is there. Your HFC network is in place. We have the products and systems, plus a dedicated commercial services organization to help you add T1/E1 and dedicated Internet access services that millions of businesses need — and are willing to pay for."); www.arrisi.com/investor_relations/presentations/060522_JPMorgan.pdf at 29 (May 2006 presentation describing Arris's "DS-1 Circuit Emulation Modem for Commercial Services"); www.arrisi.com/product_catalog/_docs/ARRIS_PO_6_07.pdf ("The ARRIS Circuit Emulation Services . . . family of products provides end-to-end T1/E1 and Ethernet for access and delivery over DOCSIS and Fiber, suitable for Business and Cellular Backhaul services. This product family is designed to enable new revenues for MSOs service offerings to Small, Medium and Large Businesses."); http://blog.tmcnet.com/blog/tom-keating/voip/voice-t1-over-coax-cable.asp ("ARRIS (Nasdaq: ARRS), a leading provider of Multi System Operator (MSO) broadband access and cable telephony solutions, and Telco Systems, a provider of carrier-class transport and access solutions for public and private IP and TDM networks, today announced that the companies have entered into a reseller agreement. Telco Systems' Cable Services Aggregator (CSA) 9000, which acts as the aggregator, when integrated with their metro Ethernet access platform offers an end-to-end circuit emulation services (CES) to cable providers. The CSA 9000 will be marketed by ARRIS to key MSOs, allowing them to deliver T1 voice, frame relay, and leased line services in the US, and similar E1-based services worldwide, over standard DOCSIS infrastructure, without any plant modifications. According to Kagan Research, this increased level of business activity will lead to availability of cable-based commercial services to 54% of U.S. businesses by 2007."); http://vyyo.myspin.com/index.asp?_method=view&sc=209&cn=3161&md=overview (Vyyo T1-Over-Coax cable solutions); http://vyyo.myspin.com/Assets/Files/v313.pdf ("Vyyo offers broadband end-to-end solutions used by cable and wireless operators to deliver telephony services (T1/E1) and highspeed data connections to business and residential subscribers. The technology uses a modified version of the cable industry standard DOCSIS® architecture to deliver circuit-switched telephony services, as well as voice and data over IP. The company sells systems directly to service providers and systems integrators worldwide. The V313 E1/T1

(continued ...)

suitable for business customers that currently utilize telco T1 services, for example to support digital PBX systems. Just last month, CableLabs issued a new revision of its "Business Services Over DOCSIS" TDM Emulation Interface Specification.[63] As described by CableLabs:

> Business Services over DOCSIS-TDM Emulation service (BSoD-TE) is a method for cable operators to deliver T1, E1 and NxDS0 emulation services that meet or exceed the quality requirement of applications that use such services. This specification is part of the DOCSIS® family of specifications developed by Cable Television Laboratories (CableLabs), and in particular, defines the BSoD-TE architecture and components that comply with DOCSIS. This specification was developed by CableLabs for the benefit of the cable industry, and includes contributions by operators and vendors from North America, Europe, and other regions.
>
> In legacy telecommunication networks, telephone calls are often brought into households, one at a time, over twisted pair wires. To transport many telephone calls at once (i.e., between business, wireless base stations and in the telephone network), single calls are time-multiplexed together into 'T1' signals. A single T1 signal carries 24 individual calls, and a similar European 'E1' signal carries 32 calls. Since T1 and E1 (T1/E1) services have been deployed for quite some time, the performance standards, tariffs and market are well defined. A number of ITU and ANSI standards define the various aspects of T1/E1 services. Moreover, the usage and deployment models of T1/E1 lines are well understood.

(...continued)

Modem supports both IP data and circuit switched E1/T1 applications. It has one 100BASE -T port for an Ethernet connection and 4 RJ45 connectors, each carrying four pairs of 2W loop-start customer-premises switched services interface delivering up to 16 POTS lines."); www.tmcnet.com/usubmit/2004/may/1043604.htm (describing T1 emulation over MetroEthernet).

T1 emulation technologies are not unique to cable-company networks. As CableLabs has observed, "Throughout the evolution of communication networks the T1 and E1 service that is delivered to the customer has remained relatively consistent (in large part due to the strict ITU and ANSI standards), however the method of delivering the T1 or E1 service has changed to increase efficiencies and leverage new technologies. Both SONET and ATM historically have been adapted to transport T1 and E1 services; now MPLS and IP networks are also being used. Various standards bodies and vendors have created methods for circuit emulation of T1 and E1 services across IP networks, leveraging the successful ATM circuit emulation technology developed in the 90s." (CableLabs' "Business Services over DOCSIS" specifications, http://www.cablemodem.com/downloads/specs/CM-SP-TEI-I03-070803.pdf, at 11.)

Some of the earlier alternatives for T1 emulation over IP are described in a statement submitted by a technical expert in February 2006 in the *Alaska Forbearance Proceeding*. *See* http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518329659.

[63] http://www.cablemodem.com/downloads/specs/CM-SP-TEI-I03-070803.pdf.

> This specification outlines the methods by which T1/E1 structured, unstructured, and fractional signals can be converted to IP packets, transported over a DOCSIS IP network, and converted back to T1/E1 signals with high reliability and quality.[64]

As one analysis notes, "[t]he introduction of [the BSoD specifications], combined with deep fiber networks, will continue to position cable operators to compete strongly in this [business-services] market space."[65]

Other technologies are also available to enable cable companies to serve the medium-sized market. A recent analysis by Pierre Fournier of Nortel discusses various alternatives for cable-company provision of services that will support customer PBX or key systems. Among the architectures considered in the analysis are ones in which "[a] nonPacketCable multimedia terminal adapter (MTA) is connected to a cable modem and provides one or multiple telephony line appearances to the key system or PBX," or "[a] PacketCable-compliant cable modem with embedded MTA (EMTA) provides the telephony interface to the PBX or key system." It concludes that "[s]erving the traditional telecommunication needs of today's enterprise, and capturing a larger share of this $120 billion market, is well within the grasp of cable operators. With technical foresight and care of provisioning, enterprise customers will soon benefit from the business advantages of 'QoS [Quality of Service] to the door' of today's DOCSIS network."[66] Another analyst noted in January that "[i]n recent months . . . several vendors have begun marketing multi-line MTAs to cable MSOs. Two of the more popular MTAs, a 4-port MTA from Innomedia, and a 12-port MTA from Arris, are [depicted in the report]. Given a typical over-loading [*i.e.*, concentration] ratio of 3:1, the Innomedia and Arris solutions can serve SMEs with up to 12 or 36 employees respectively via a PBX system. This opens a considerable addressable opportunity

---

[64] *Id.* at 1.

[65] Pierre Fournier, "A Primer on Business Technology: Disruptive Technology Creates Opportunity," October 1, 2006 (http://www.cable360.net/ct/strategy/businesscases/20146.html).

[66] *Id.*

for cable within the SME footprint."[67] The report also notes that "Cablevision has taken an early lead in marketing multi-port MTAs and voice/data bundles to SME customers within its footprint . . . ."[68]

E. ABILITY OF CABLE COMPANY NETWORKS TO REACH BUSINESS CUSTOMERS

Another frequent claim of Verizon's competitors is that cable plant originally designed for the residence market does not pass close enough to business locations. While this may be literally true if the standard is whether the plant passes *all* business locations, the cable companies themselves admit that they are able to reach substantial numbers of business customers. (Of course, the existence of competitive price discipline does not depend on the ability to provide service to *all* of Verizon's customers.)

As noted previously, a Cablevision official has stated that "small and medium size business customers are 'sitting in front of our HFC plant.'"[69] Cablevision has identified 600,000 "serviceable" customers (defined as situations in which "a Cablevision cable ran in front of the business's building") in its New York-centered service area.[70] One industry analyst has estimated that nearly 60 percent of "small-to medium-sized businesses (SMB) are located within a few hundred feet of the local hybrid fiber/coaxial network."[71] Another, Buckingham Research Group, recently estimated that cable companies can use their existing plant to target more than 85 percent of commercial revenues.[72] According to analysts at Kagan Research:

> [C]able plant already passes about 3.8 million small businesses in the U.S. and about 4 million businesses altogether, or about 60 percent of firms, by some

---

[67] *Buckingham Report* at 10. The illustrations of the two MTAs discussed in the report are on page 11. For the Innomedia products, *see* http://www.innomedia.com/products_cable.shtml. On Arris EMTAs, *see, e.g.*, http://www.arrisi.com/product_catalog/listers/index.asp?id=409

[68] *Buckingham Report* at 24.

[69] Quoted in *First NERA Report* at 7.

[70] Quoted in *Vasington Report* at 9-10.

[71] Quoted in *First NERA Report* at 8.

[72] *Buckingham Report* at 20, Ex. 14.

> estimates. Kagan expects that number to jump to 5 million small businesses and 6.1 million total businesses by 2010.
>
> Furthermore, just as businesses often are clustered in particular areas within a metro market, due to planning and zoning rules, so too are cable HFC nodes built in clusters, with each node serving about a 0.5 square mile area. So MSOs can be selective as to which nodes get upgraded, thereby minimizing the capital investment risk, says [Louise Wasilewski, vice president business development for Narad Networks].
>
> After analyzing three different metro areas of different sizes, for example, researchers at Stratsoft determined that about 50 percent of business revenues are available to cable operators by building out just the first 5 to 7 percent of nodes.[73]

In any event, fixed wireless technology, now offered by a number of providers, enables cable companies to extend their networks to businesses that are *not* passed by their coaxial or fiber-optic outside plant.[74]

The facts that the major MSOs have announced plans to target the enterprise market, have emphasized the significant share of revenues that they think that they can gain from that market, and have made significant investments towards that goal, all confirm that the cable industry itself does not believe that business customers are "unreachable" from their networks.

* * *

[73] Martin Vilaboy, "Carrier Ethernet Key to MSO Business Plans," Fat Pipe Magazine, August 17, 2007 (http://www.fatpipeonline.com/articles.php?issue_id=38).

[74] *See Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, Declaratory Ruling, 22 FCC Rcd 5901, ¶ 14 (2007) (fixed wireless networks "typically have a reach of one to five miles" and merely require that customers "have a rooftop antenna that can establish a line-of-sight connection with the network transmitter"); *AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, Memorandum Opinion and Order, 22 FCC Rcd 5662, ¶ 48 (2007) ("fixed wireless offers the potential of being a cost-effective substitute for fiber as a last-mile connection to commercial buildings"). One of the benefits of fixed cable technology is that it is portable and thus does not become a "sunk cost" of providing service to a location. If the cable provider subsequently finds it worth while to run fiber or coaxial cable to a location served by fixed wireless equipment, the equipment can then be moved to another location. This eliminates some of the economic risks that might otherwise be associated with providing service to a location that is not currently wired with or passed by cable plant.

Although ArcWave (discussed in the *First NERA Report*) recently discontinued its operations, fixed wireless solutions remain available from other vendors. *See, e.g.*, http://motorola.canopywireless.com/ (Motorola); http://www.azurecomm.com/applications-cable.html (Azure Communications' wireless cable extension); http://www.wireless-bypass.com/whoweare.cfm (Wireless Bypass, Inc. hybrid wireless-coax solutions).

Thus, there is abundant evidence that cable networks can — and do — provide services to support the small, medium, and large business markets.

IV. THE COMMISSION SHOULD BASE ITS ANALYSIS ON A BROAD GROUPING OF THE RELEVANT PRODUCTS

Because multi-functional competitive platforms offer alternatives to the full range of Verizon business services, it is appropriate to analyze business services a unitary basis, rather than in terms of multiple, disaggregated product groups. Analytically, this approach can be implemented in one of two, essentially equivalent ways. *First*, the existence of these multi-functional platforms can be used as the basis for a grouping encompassing *all* retail business products. *Second*, even if the Commission prefers to analyze particular subsets of business products separately, the existence of such platforms supports a competitive analysis that cuts across all of those subsets, and demonstrates that each of them is competitive. Whether the comprehensive capabilities of the available competitive platforms are factored into the analysis at the product-grouping stage or at the stage of analyzing competition within the defined groups, the unavoidable conclusion is the same: Verizon is unable to exercise market power for any business service in New York, and, thus, existing competitive realities support increased pricing flexibility for Verizon.

The conventional approach to product grouping for purposes of competitive analysis is based on cross-elasticity of demand; *i.e.*, to the substitutability of products from the consumer perspective. However, it must be recognized that this approach is only a means to an end — that end is the identification of the maximum (*i.e.*, most inclusive) set of products all of whose prices are disciplined by the presence of effective competition for individual products within that set.[75] Where products are

[75] Equivalently: (a) "[D]efining a relevant product market is a process of describing those groups of producers which, because of the similarity of their products, have the ability — actual or potential — to take significant amounts of business away from each other." (*SmithKline Corp. v. Eli Lilly & Co.*, 575 F.2d 1056, 1063 (3rd Cir. 1978).) (b) A relevant product market is "the smallest grouping of products whose sellers, if unified by a hypothetical cartel or merger, could profitably increase prices significantly above the competitive level." (*R.R. Donnelley & Sons Co.*, 120 F.T.C. 36, 1995 FTC LEXIS 450, *42 (1995).) Either of these two standards would support the "supply-based" approach discussed below.

mutually substitutable, an increase in the price of one such product to supra-competitive levels will induce consumers of that product to switch to other products in the same group — thus supporting the inclusion of all of those products in a single competitive group. However, that result — mutual price discipline — does not necessarily depend solely on consumer behavior — *i.e.*, on cross-elasticities of demand.

An alternative approach is based on *producer* behavior — *i.e.*, on cross-elasticity of *supply*, or in other words on "the ability of producers of Product B to switch to producing Product A."[76] This supply-side approach is well-suited to the analysis of the product groups at issue here and is consistent with the approach that the Commission took in the *Competition III* proceeding, which focused on the existence of competitive *platforms* (*i.e.*, sources of supply for the full range of residence services) as the basis for a finding of effective competition. Moreover, the alternative approach does not depend on cross-elasticities of demand, the calculation of which would require both significant amounts of data that are not routinely tracked in an appropriate format, and the willing cooperation of all of Verizon's regulated and unregulated competitors in New York.

An example of the value of the supply-side approach is furnished by the sale of men's and women's clothing.[77] These two sets of products are not substitutable from the consumer (demand) perspective — it is doubtful that even a substantial increase in the cost of men's business suits will lead many men to begin wearing skirts to the office. Nevertheless, the two sets of goods are substitutable from the supply perspective, since a manufacturer of men's clothing should be readily able to re-tool to produce women's clothing, and vice versa. Thus, an increase in the price of women's clothing will lead manufacturers of men's clothing to shift their production to women's clothing, which in turn will drive down prices for women's clothing. "Even if two products are completely different from the consumer's

[76] ABA Section of Antitrust Law, 1 Antitrust Law Developments (Sixth) (2007) at 555.

[77] *See id.*

standpoint, if they are made by the same producers an increase in the price of one that is not cost-justified will induce producers to shift production from the other product to this one in order to increase their profits by selling at a supracompetitive price."[78] This new entry will in turn will limit the original producer's ability to sustain the price increase. Thus, supply-side substitution disciplines prices as effectively as demand substitution, and provides an alternative basis for grouping products. This approach has been applied by a number of courts.[79]

The "suppliers" or "manufacturers" of the business telecommunications services at issue in this proceeding are the operators of alternative network platforms whose existence and capabilities are discussed in our 2006 and May 21, 2007 filings, and in this supplemental filing. By using or adapting these existing platforms, competitors can readily address the full range of telecommunications needs of business customers. Thus, from the supply-side perspective, it would be justifiable to treat all retail business services together for purposes of competitive analysis. However, for purposes of this filing, we adopt a somewhat narrower product grouping that divides such services into two categories: mass market, and "Enterprise." We use a four-line threshold as a dividing line between the two groupings.[80]

---

[78] *Blue Cross & Blue Shield United v Marshfield Clinic*, 65 F.3d 1406, 1410-11 (7th Cir. 1995), *reh. denied and amended*, 1995 U.S. App. LEXIS 29056 (7th Cir. 1995), *cert. denied*, 516 U.S. 1184 (1996).

[79] Although antitrust law is not necessarily determinative of how competitive analysis is conducted for regulatory purposes, it is nevertheless significant that a number of courts have adopted the supply-side approach. *See, e.g., Rebel Oil Co. v. Atlantic Richfield Co*, 51 F.3d 1421, 1436 (9th Cir. 1995), *cert. denied*, 516 U.S. 987 (1995) ("If producers of product X can readily shift their production facilities to produce product Y, then the sales of both should be included in the relevant market."; "The ease by which marketers can convert their full-serve facilities to increase their output of self-serve gasoline requires that full-serve sales be part of the relevant market; it is immaterial that consumers do not regard the products as substitutes, that a price differential exists, or that the prices are not closely correlated."); *Blue Cross & Blue Shield United v. Marshfield Clinic*, *supra*; *United States v. AT&T*, 524 F. Supp. 1336, 1376 & n.163 (D.D.C. 1981); *Calnetics Corp v. Volkswagen of America*, 532 F.2d 674, 691 (9th Cir. 1976), *cert. denied*, 429 U.S. 940 (1976) (district court's "failure to consider production cross-elasticity was inconsistent with the views of the Supreme Court and of this circuit." [footnotes omitted]); *J.H. Westerbeke Corp. v. Onan Corp*, 580 F. Supp. 1173, 1186-187 (D. Mass. 1984); *In re Municipal Bond Reporting Antitrust Litigation*, 672 F.2d 436, 441 (5th Cir. 1982); *New York v. Kraft Gen. Foods*, 926 F. Supp. 321, 361 (S.D.N.Y. 1995).

[80] The *Staff Merger White Paper*, at 27 n.69, notes that "[t]he FCC [for purposes of its Local Competition Report] defines 'Medium and Large Business, Institutional, and Government Customer Market' as entities purchasing four or more lines."

There is regulatory precedent for this two-group approach. Most notably, a similar approach was adopted in this Commission's own MCI *Merger Approval Order* (and in the underlying Staff White Paper). The purpose of the White Paper's analysis was to determine "whether the proposed transaction will give the merged company market power that can be used to set price above competitive levels."[81] The analysis focused on four product groups: "(1) Mass Market - Retail; (2) Enterprise – Retail; (3) Transport – Wholesale; and (4) Special Access and High Capacity Loops - Retail and Wholesale."[82] Staff noted that "[t]he retail telecommunications market, including both voice and data services, should be examined in terms of two broad groups of customers: residential/small business and medium/large business, including the institutional and government customers market."[83] The Commission used essentially the same groupings in its order.[84]

Similarly, in the *Qwest Forbearance Order* the FCC stated that "for purposes of evaluating Qwest's request for relief from dominant carrier regulation, we divide these interstate [telecommunications] services into mass market (residential consumers and small business customers) and the enterprise market (medium-sized and large business customers)."[85]

Other decisions support even broader product groupings. In a 2002 order, the Massachusetts Department of Telecommunications and Energy treated essentially all business services as part of a single group.[86] In 2005, the Oklahoma commission analyzed competitive issues in terms of the group of all

---

[81] *Id.* at 16.

[82] *Id* at 18 (footnote omitted).

[83] *Id.* at 18 n.44.

[84] *PSC Merger Approval Order* at 23, *et seq.*

[85] *Qwest Forbearance Order* ¶ 22 (footnote omitted).

[86] *Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Regulatory Plan to succeed Price Cap Regulation for Verizon New England, Inc. d/b/a Verizon Massachusetts' intrastate retail telecommunications services in the Commonwealth of Massachusetts*, D.T.E. 01-31-Phase I, Order (May 8, 2002), at 33-36.

"retail intrastate telecommunications services."[87] And in 2006, the California commission concluded that there is a single voice communications market.[88]

V. EACH OF THE DEFINED PRODUCT GROUPS IS COMPETITIVE

As noted above, even if the Commission were to conclude that more than two product groups should be considered for competitive analysis purposes, this would not preclude a uniform treatment of those groups in the competitive analysis itself. The ability (and willingness) of owners of competitive platforms to address all of the needs of business customers demonstrates that *all* of the product groups (however defined) are effectively contestable. Thus, supply-side substitutability is not only relevant to the product grouping issue, but also to the assessment of competition in the defined product groups.[89] This is consistent with the approach that was taken in the *FCC Merger Approval Order*.[90] Similarly, the *California Order* concluded in the geographic context that while "individual geographic regions" should be considered in competitive analyses, the uniform presence of a competitive platform eliminated any need for a separate analysis of each of those regions.[91]

---

[87] *Application of Southwestern Bell Telephone, L P., d/b/a SBC Oklahoma for the Classification of Intrastate Retail Telecommunications Services as Basket 4 Services Pursuant to OAC 165.55-5-66(4)*, Cause No. PUD 200500042; Order No. 508813 (Okl. Corp. Comm. July 28, 2005).

[88] Rulemaking 05-04-005, *Order Instituting Rulemaking on the Commission's Own Motion to Assess and Revise the Regulation of Telecommunications Utilities*, Opinion (Decision 06-08-030) (Cal. PUC August 24, 2006) ("*California Order*"), at 74-77, 240.

[89] In other words, the Commission should focus on the presence of multi-functional platforms and their competitive implications, and not on the abstract question of how many relevant groupings exist for retail business services. This was essentially the approach taken in the *Competition III* order, which relied on the existence of residential-service platforms but did not explicitly define a product breakdown. Implicitly, the Commission treated all non-basic retail residence services as a single group.

[90] In ¶ 58 of the *FCC Merger Approval Order*, the FCC identified "a number of separate relevant product markets" for retail enterprise services. *See also id.* ¶¶ 83, *et seq.* (product markets for mass market analysis). However, its analysis of the impacts of the merger on horizontal competition referred to issues that cut across all of the relevant markets. *See, e.g., id.* ¶ 65 (discussing large number of competitors and customer sophistication in the mid-size and large enterprise markets and increased competition from cable and VoIP providers for smaller enterprise customers); ¶¶ 102-105 (analysis of mass market).

[91] *California Order* at 239-40.

It is clear that the competition that Verizon faces extends to *all* business services. Verizon's line-loss data demonstrate that the company is losing lines in both its smaller ("General Business") market and in its larger ("Enterprise") line of business.[92] Even more significantly, the evidence marshaled in this filing, the two *NERA Reports*, and the *Vasington Report* — including the competitors' own statements, their descriptions of the services that they offer, the conclusions of the FCC, the views of investment analysts, and technical data on the capabilities of the HFC and all-fiber networks owned by the cable companies — demonstrates that facilities-based competitors pose a real and present competitive threat to Verizon over the entire spectrum of business services and customers — small, medium, and large.

Mass Market. It is widely recognized that mass market business customers demand essentially the same services as residence customers, and that those services can be provided in essentially the same way, albeit with business-oriented packaging, pricing plans and marketing. Thus, residence and small business services were considered as one group ("mass market") in this Commission's *Merger Approval Proceeding*. The FCC has "defined mass market customers as residential *and* small business customers that purchase standardized offerings of communications services,"[93] and has stated that "[d]ue to the similarities between the kinds of services that residential customers and very small business customers purchase, as well as how carriers market and provide service to them, we find that the economic considerations that lead to the provision of service to a residential customer are similar to the economic considerations that lead to the provision of service to a very small business customer."[94]

Thus, it is not surprising that numerous cable, wireless, and CLEC offerings compete in the business mass market just as they compete in the residence mass market.[95] Both this Commission and the

---

[92] *First NERA Report* at 33-35; *Vasington Report* at 18-19.

[93] *FCC Merger Approval Order* ¶ 83 n.245.

[94] *Qwest Forbearance Order* ¶ 28 n.78.

[95] *See*, for example, the description of Cablevision's mass market business offering at http://www.optimum.com/business/ov/dp.jsp.

FCC have concluded that the broadly-defined mass market is competitive. This Commission concluded in its *Merger Approval Proceeding* that "[a]ny market concentration that may arise as a result of the merger can be offset by future developments in this fast changing and dynamic mass market segment. Moreover, market pressures from emerging cable voice offerings, together with VoIP and wireless offerings, are placing new pressures on Verizon and should continue to restrain Verizon's behavior post-merger."[96] In its own MCI merger approval proceeding, the FCC concluded that "competition from intermodal competitors [in the mass market] is growing quickly, and we expect it to become increasingly significant in the years to come."[97] Finally, this Commission recognized in the *Competition III* proceeding that the level of residence mass-market competition warranted a degree of pricing flexibility for residence services that is well beyond what we are seeking here. Because the business and residence mass markets are properly viewed as a single market, the *Competition III* findings readily extend to pricing flexibility for business services as well.

Enterprise services. The FCC has found that retail competition for enterprise customers is "strong" and will remain so "because medium and large enterprise customers are sophisticated, high-volume purchasers of communications services that demand high-capacity communications services, and because there [are] a significant number of carriers competing in the market."[98] It recognized that "interexchange carriers, competitive LECs, cable companies, other incumbent LECs, systems integrators, and equipment vendors" all "are prepared to make competitive offers" to enterprise customers and therefore "ensure that there is sufficient competition."[99] Similarly, this Commission concluded that "Enterprise customers [as a group] are sophisticated purchasers of telecommunication services." As long

---

[96] *PSC Merger Approval Order* at 29.

[97] *FCC Merger Approval Order* ¶ 102 (footnote omitted).

[98] *Id.* ¶ 56.

[99] *Id.* ¶ 64; *see also id.* ¶¶ 74-77.

as alternative providers are present, "[t]hese large customers can obtain services from alternative providers or negotiate a competitive price for service if they are not satisfied with either price or service from their current provider."[100]

The previously mentioned declaration of David K. Brown and Ihab S. Tarazi provided an informative summary of competition in the enterprise market, and how cable companies are now highly competitive in that market:

> Enterprise customers represent one of the largest and most valuable segments of the telecommunications industry, and there is intense competition for these customers. Verizon Business is just one of many competitors vying to serve these large customers, and competition has in fact been increasing as cable operators have begun competing for enterprise customers.
>
> Verizon Business competes on an individual case basis for its larger customers. In most cases, a large customer that seeks to procure communications services issues a Request for Proposal to solicit bids from various providers. Interested parties submit bids, which are then evaluated in order to select the provider (or in some cases multiple providers) that best meets the customer's needs. Once a winning bidder is selected, the parties typically form a detailed contract that is typically anywhere from one to five years in length.
>
> When Verizon Business participates in RFPs, it invariably faces competition from a wide variety of providers. These providers include traditional telecom providers such as AT&T, Qwest, Sprint, Level 3, and Global Crossing; managed service providers and systems integrators such as IBM, Electronic Data Systems Corp., Accenture, Northrop Grumman, and Lockheed Martin; equipment vendors such as Lucent and Nortel; and, increasingly, cable operators. These competitors provide retail services through various combinations of their own facilities and facilities obtained from third parties. It is common in the enterprise market for retail competitors to rely on third-party facilities; no carrier, even large providers like Verizon, has ubiquitous facilities.[101]

As we have demonstrated, this competition extends across the full range of Enterprise services (*i.e.*, "non-mass-market" business services). Numerous providers, including cable companies, offer high capacity services for larger businesses over their fiber-based networks. At the smaller end of the

---

[100] *PSC Merger Approval Order* at 33-34. *See also* Case 07-C-0030, Memorandum to the Commission from the Office of Telecommunications (February 21, 2007), approved as recommended and so-ordered by the Commission (issued and effective February 28, 2007), at 4 n.4.

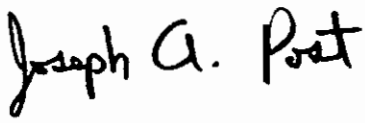
[101] Attachment K, ¶¶ 4-6.

Enterprise market, cable companies, CLECs, and other competitors offer T1/PBX, Centrex, and other solutions well adapted for businesses with line counts intermediate between the mass market and large business categories. Cable companies can and do offer such solutions over either their legacy HFC networks or over their fiber networks.

VI. SUMMARY AND CONCLUSIONS

This filing, together with the evidence previously marshaled by Verizon in the *NERA Reports* and the *Vasington Report* — and the well-founded regulatory findings of this Commission, other state commissions, and the FCC — all amply establish that the full range of Verizon's retail business services is subject to strong, pervasive, and ever-increasing competition from a diverse array of aggressive, facilities-based competitors with substantial financial and strategic assets. Verizon should be granted the greater pricing flexibility for such services that is set forth in its May 21, 2007 tariff filing.

Respectfully submitted,



JOSEPH A. POST
140 West Street — 27th Floor
New York, New York 10007-2109
(212) 321-8126

Counsel for Verizon New York Inc.

September 14, 2007

APPENDIX: TABLE OF FREQUENTLY CITED SOURCES

- ***Alaska Forbearance Order.*** *Petition of ACS of Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, As Amended, for Forbearance from Sections 251(c)(3) and 252(d)(1) in the Anchorage Study Area*, WC Docket No. 05-281, Memorandum Opinion and Order, 22 FCC Rcd 1958 (2007).

- ***Buckingham Report.*** Quasir Hasan & May Tang, Buckingham Research Group, *Cable Goes Commercial: Examining Cable's Next Growth Phase* (January 11, 2007).

- ***Competition III Order.*** Case 05-C-0616, "Statement of Policy on Further Steps Toward Competition in the Intermodal Telecommunications Market and Order Allowing Rate Filings" (issued and effective April 11, 2006).

- ***FCC Merger Approval Order.*** *Verizon Communications Inc. and MCI Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, WC Docket No. 05-75, 20 FCC Rcd 18433 (2005).

- ***First NERA Report.*** NERA Economic Consulting, "Report on Competition for Retail Business Services in New York State" (filed in Case 06-C-0897, August 31, 2006).

- ***PSC Merger Approval Order.*** Case 05-C-0237, "Order Asserting Jurisdiction and Approving Merger Subject to Conditions" (issued and effective November 22, 2005).

- ***Qwest Forbearance Order.*** *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C § 160(c) in the Omaha Metropolitan Statistical Area*, WC Docket No. 04-223, 20 FCC Rcd 19415 (2005), petitions for review denied, *Qwest Corp. v. FCC*, 482 F.3d 471 (D.C. Cir. 2007).

- ***Second NERA Report.*** NERA Economic Consulting, "Supplemental Report: Competition for Retail Business Services in New York State" (filed in Case 06-C-0897, October 2, 2006).

- ***Staff Merger White Paper.*** Cases 05-C-0237 and 04-C-0242, Department of Public Service Staff White Paper (July 6, 2005).

- ***Vasington Report.*** Case 06-C-0897, "Verizon New York Inc. Tariff Filing to Implement Limited Pricing Flexibility for Retail Business Services -- Attachment 2: Supplemental Report on Competition for Business Services in New York" (May 21, 2007).

- ***Webinar.*** Archived "webinar" on "Cable Commercial Services: Tackling the Telcos on Their Home Turf" (originally delivered February 13, 2007), available at http://www.lightreading.com/webinar_archive.asp?doc_id=27984 (registration required).

TABLE OF ATTACHMENTS

	SOURCE DOCKET	I.D. IN SOURCE DOCKET	DESCRIPTION
A (*)	WC 06-172 (FCC Forbearance proceeding)	Attachment A (Lew, *et al.* Declaration), ¶¶ 1-5, 10, 46, plus signatures	Description and summary of data re. fiber deployment
B (*)	WC 06-172	Attachment A, Exhibit 5	Fiber maps
C (*)	WC 06-172	Attachment A, Exhibit 6	Fiber maps
D	WC 06-172	Attachment A, Exhibit 8	Fiber map – Lightpath
E	WC 05-25 (FCC Special Access proceeding)	Attachment F (Martinian Declaration)	Description of preparation of fiber maps
F (*)	WC 05-25	Attachment F, Exhibits 1-4	Tables of fiber providers in four NY MSAs
G (*)	WC 05-25	Attachment H-1	Fiber deployment data – NY MSA
H (*)	WC 05-25	Attachment H-13	Fiber deployment data — Buffalo MSA
I (*)	WC 05-25	Attachment H-14	Fiber deployment data — Albany MSA
J (*)	WC 05-25	Attachment H-17	Fiber deployment data — Syracuse MSA
K (*)	WC 05-25	Attachment C (Brown/Tarazi Declaration)	Competition in Enterprise market, as observed by Verizon Business
L	WC 05-25	Attachment G	Background information on competitive providers
M	WC 06-172 (Reply)	Attachment D, Exhibit 11	Statements of Competitive Providers
N	N/A	N/A	Nawrocki Affidavit

(* = Confidential)

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT A

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT B

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT C

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

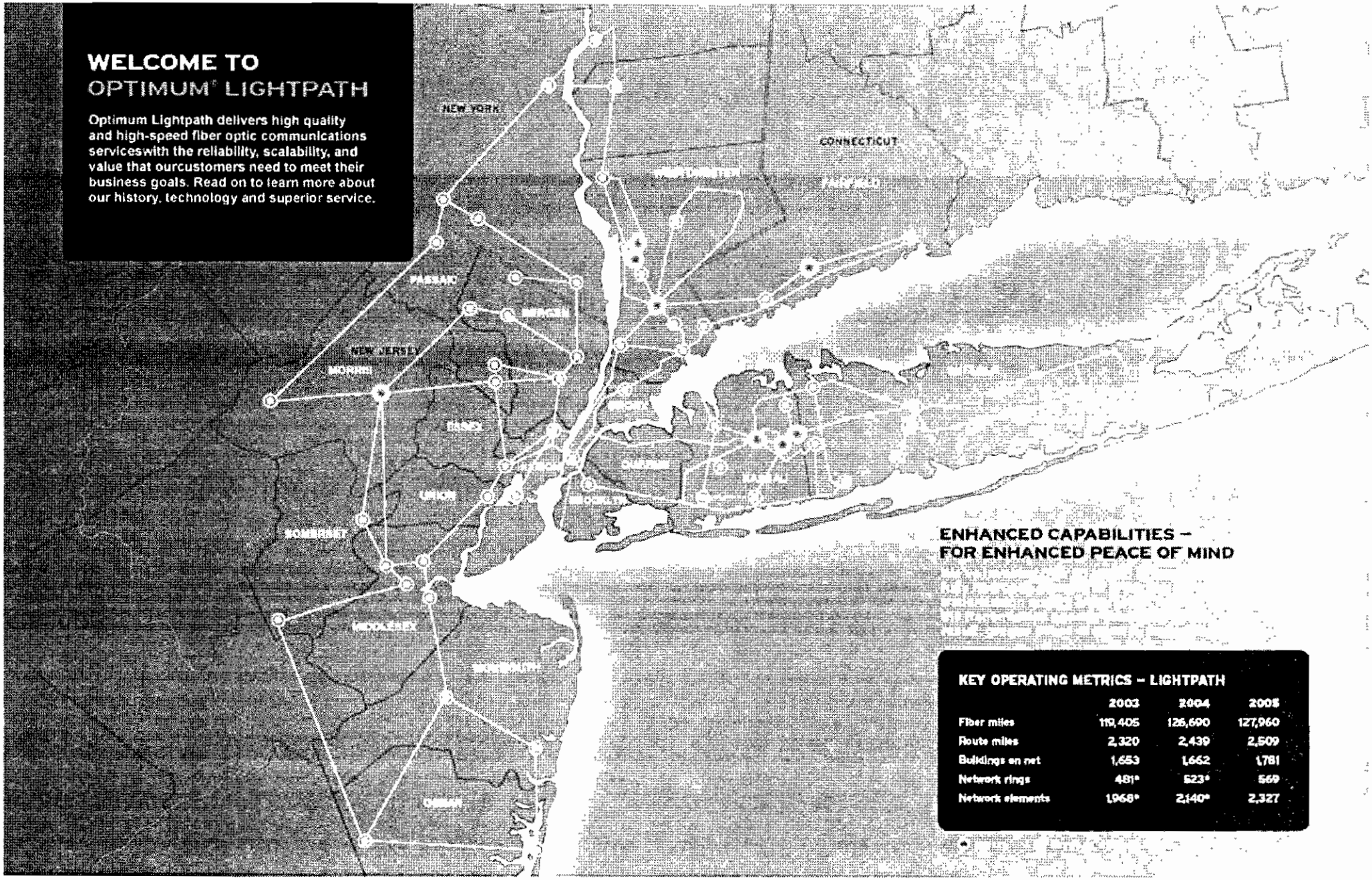
ATTACHMENT D

DECLARATION OF QUINTIN LEW, JUDY VERSES, AND PATRICK GARZILLO REGARDING COMPETITION IN THE NEW YORK METROPOLITAN STATISTICAL AREA

EXHIBIT 8

WELCOME TO
OPTIMUM® LIGHTPATH

Optimum Lightpath delivers high quality and high-speed fiber optic communications serviceswith the reliability, scalability, and value that ourcustomers need to meet their business goals. Read on to learn more about our history, technology and superior service.



ENHANCED CAPABILITIES – FOR ENHANCED PEACE OF MIND

KEY OPERATING METRICS – LIGHTPATH

	2003	2004	2005
Fiber miles	119,405	126,690	127,960
Route miles	2,320	2,439	2,509
Buildings on net	1,653	1,662	1,781
Network rings	481*	523*	569
Network elements	1,968*	2,140*	2,327

Lew/Verses/Garzillo Decl. - Exhibit 8
New York MSA

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT E

ATTACHMENT F

DECLARATION OF KENNETH J. MARTINIAN

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

In the Matter of	)	
	)	
Special Access Rates for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25 & RM-10593
	)	

DECLARATION OF KENNETH J. MARTINIAN

I. Introduction and Background

1. My name is Kenneth J. Martinian. I am a consultant at Altman Vilandrie & Company. Altman Vilandrie & Company's offices are located at Two International Place, 15th Floor, Boston, Massachusetts 02110.

2. Altman Vilandrie & Company is a strategy consulting firm serving the telecommunications and related high-tech industries. The firm was started in 2002 and has roughly 35 employees. Our practice is concentrated in the U.S., where we assist service providers, economists, and attorneys with the creation of data-driven exhibits using maps, financial modeling, internal and external databases, and market research. Our specific service areas include: economic modeling and valuation, competitive analyses, market share analyses, demand forecasts, and cost modeling.

3. I earned a Masters of Business Administration from the Massachusetts Institute of Technology Sloan School of Management, a Juris Doctor from Boston University, and a Bachelor of Arts degree from Brandeis University. I have been working in the telecommunications field since 1999. Prior to joining Altman Vilandrie & Company, I was a senior associate with The Brattle Group and before that I held various positions at TMNG Strategy, formerly the Cambridge Strategic Management Group, and Deloitte Consulting. I have participated in regulatory proceedings involving matters such

as mergers and acquisition, UNE forbearance, access rate reform, and wireless spectrum policy.

4. In this proceeding, I was asked by Verizon to examine competitive providers' fiber routes, buildings, and wireless cell sites within the Verizon ILEC territory and to display the results of my analysis on maps and in supporting exhibits.

5. The purpose of my declaration is to explain the methodology and data sources that were used to create the exhibits and maps that I understand Verizon is filing in this proceeding. These exhibits show competitive provider known fiber and known lit buildings by MSA and selected carriers' use of Verizon's special access services; the maps show competitive providers' known fiber and buildings served by fiber, overlaid on top of high resolution satellite photographs of selected areas, as well as selected carriers' use of Verizon's special access services.

II. Fiber Routes

6. In order to map the routes of competitive providers' known fiber, we obtained local fiber data from GeoTel, a leading provider of information related to telecommunications geography. GeoTel maintains a "MetroFiber" data set that includes information regarding carriers and fiber routes for over 285 different carriers in approximately 180 MSAs. We eliminated Verizon and former MCI fiber from this data set. It is important to recognize that, as GeoTel itself recognizes, GeoTel's information regarding competitive fiber routes, while extensive, is not comprehensive and understates both the number of competitors that have deployed fiber and the reach of fiber. As a point of reference, GeoTel's information understated former MCI's fiber by nearly 43%, based on a comparison of the GeoTel data for MCI and the data that we received from MCI itself. The reason for this is that competitive providers are under no obligation to provide information about the location of their networks or fiber deployment and do not usually volunteer this information, particularly where the information might be used as evidence in a regulatory proceeding, such as this one.

7. Within Verizon's top 25 MSAs in terms of special access demand ("top 25 MSAs"), we identified 74 competitive providers with fiber with a total of over 13,000

unique fiber route miles within the GeoTel dataset. This data is reflected in Exhibit 1 attached hereto.

8. In addition to GeoTel data, we received data from AT&T on AT&T's fiber routes. This data contains numerous instances of duplicate fiber routes making it difficult to calculate total unique fiber route miles. We include this proprietary AT&T fiber route data graphically on maps only.

9. Both the GeoTel and AT&T fiber information were stored in a geographic information system (GIS) database. A GIS database is a database system with specific capabilities for spatially referenced data, as well as a set of operations for analyzing that data. Data in this format can be plotted on a map for visual references as well as for distance/proximity calculations.

III. Buildings Served by Fiber

10. Next, to identify the location of buildings that are served by competitive fiber providers (excluding Verizon and the former MCI), we relied on several independent data sources: (1) a list of buildings with CLEC fiber that a competing carrier supplied to Verizon in connection with Verizon's efforts to provide service outside its franchise territory; (2) data on buildings with AT&T fiber that AT&T supplied to Verizon; and (3) data on buildings with CLEC fiber obtained from GeoResults, which is based on the Telcordia CLONES database of all building-based equipment assigned a CLLI code. GeoResults uses the CLONES database to tag each building as having fiber-based equipment based on the description of that equipment. The CLONES database also provides the name of the carrier that owns the fiber-based equipment. Therefore, the GeoResults database provides a view of a number of fiber-based buildings and the identity of the carriers providing fiber to them. The dataset is under inclusive in that GeoResults assumes that all equipment is non-fiber based if there is no descriptive data sufficient to determine it is fiber-based. The data also may include equipment that has been abandoned, retired, or redeployed for which the CLONES database has not yet been updated to reflect these changes. In addition, because carriers are not required to include information in CLONES, but do so only voluntarily, and have no real incentive to provide information about their networks, the CLONES database understates both the

number of carriers that have deployed fiber to buildings and the extent to they have deployed fiber to buildings.

11. The GeoResults database contains information on over 3,000 companies with lit equipment in over 95,000 buildings across the U.S. Within Verizon's ILEC territory in the top 25 MSAs, GeoResults data shows over 650 competitive wireline providers with fiber-based equipment (excluding wireless providers and non-carrier companies where identified) in over 11,000 unique buildings (excluding central offices).

12. We loaded each building address from each database, where we are able to identify the exact physical location, into a geographic information system (GIS) database. The database contained each locations specific address as well as latitude and longitude coordinates which allow each location to spatially plotted and analyzed. The lit building data is reflected in Exhibit 2 attached hereto.

IV. Wireless Cell Sites

13. We compiled a list of wireless cell sites from the FCC ULS antenna structure database. We added to this list wireless cell sites as identified in the GeoResults database of buildings and excluded duplicate locations (some wireless cell sites atop buildings do not appear in the FCC ULS database). These two sources combine for over 110,000 unique wireless cell sites. This combined dataset likely undercounts the total number of unique cell site locations as some sources report a total of more than 140,000 unique cell site locations. We identified nearly 14,000 wireless cell sites within Verizon's ILEC territory in the top 25 MSAs.

V. Verizon Special Access

14. We were also provided with Verizon DS1 and DS3 special access circuit data used by selected competitive carriers to serve their customer locations. A description of how this data was collected is appended to the Lew Supplemental Declaration. We assigned a latitude and longitude to each location, where possible, and included this information on the maps included in Attachment H to Verizon's comments. This data, which shows these selected carriers' use of Verizon's special access services, is reflected in exhibits 3 and 4 attached hereto.

VI. Mapping

15. We created five separate maps for each of Verizon's top 25 MSAs in terms of special access revenue: (1) a MSA level map of Verizon central offices and known competitive carrier fiber (depicting GeoTel and AT&T fiber route data); (2) a MSA level map of Verizon central offices, known competitive carrier fiber, and known buildings containing fiber-based equipment (depicting GeoResults, AT&T data, and data from a competitive carrier); (3) a MSA level map of Verizon central offices, known competitive carrier fiber, and buildings served by selected competing carriers using Verizon special access; (4) a MSA level map of Verizon central offices, known competitive carrier fiber, buildings served by selected competing carriers using Verizon special access, and known buildings containing fiber-based equipment; and (5) satellite image maps of known competitive carrier fiber, known buildings containing fiber-based equipment, and known wireless cell sites.

16. To create the satellite image maps submitted in this proceeding, we used a software program called Google Earth Professional, which allows users to load geographic information system (GIS) data onto high-resolution satellite maps. The program also allows for real-time examination of the GIS data set on the satellite images.

17. We loaded the data on known fiber routes, known fiber-served buildings, and known wireless cell sites into the Google Earth Program and were able to generate maps. Each building was given a shape based on its type (Verizon Central Office, Known CLEC Lit Building, and Known Cell Site) and a color based on its competitive characteristics, as shown on the legend on each map.

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

Executed on August 8, 2007

Kenneth J. Martinian

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT F

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT G

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT H

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT I

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT J

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT K

[REDACTED]

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT L

ATTACHMENT G

PROFILES OF COMPETITIVE PROVIDERS OF
HIGH-CAPACITY SERVICES

ATTACHMENT G

PROFILES OF COMPETITIVE PROVIDERS OF HIGH-CAPACITY SERVICES

I. COMPETITIVE TELECOM PROVIDERS AND FIBER SUPPLIERS

A. National Providers

AT&T. AT&T operates the most extensive competitive fiber network in the country and is the largest provider of retail enterprise services. AT&T offers local private line services and Ethernet private lines services from DS1 levels on up.[1] AT&T serves "all Fortune 1000 companies" and "all of the S&P 500 companies."[2] AT&T recently announced that it had won a five-year, nearly $1 billion contract from General Motors, and stated it was "one of the largest commercial contracts in AT&T history."[3]

Global Crossing. Global Crossing is a facilities-based provider that offers a full range of data services for enterprise customers, including Frame Relay, ATM, private lines, wavelength services, collocation, dedicated Internet access, IP VPNs, and metro and local access services.[4] Global Crossing also offers many of these same services on a wholesale basis for use by other telecommunications carriers.[5] Global Crossing states that its "Metro Network Services allow [] customers to link to [Global Crossing's] high-speed, intra-city, SONET/SDH and DWDM rings."[6] Global Crossing's customers include "approximately 40 percent of the Fortune 500, as well as 700 carriers, mobile operators and ISPs."[7] Global Crossing operates throughout the

---

[1] AT&T, *Point to Point Services*, http://www.business.att.com/service_overview.jsp?repoid=Product&repoitem=w_ptp_services&serv=w_ptp_services&serv_port=w_data&serv_fam=w_local_data&segment=whole. (AT&T's Local Private Line services provide "a dedicated circuit between two locations: Customer premise to customer premise, Customer premise to IXC POP, Customer premise to Internet or other non-AT&T POP, Customer premise to AT&T POP." "The AT&T Local Private Line Product line includes DS1, DS3, OC3c, OC12c, OC48c, OC192c and STM-1/STM-4. STM provides local customer connectivity using non-U.S. standards in speeds of 155 Mbps SDH, 622 Mbps SDH and 2.5 Gbps SDH." AT&T's "Ethernet Private Line Service-MAN (EPLS-MAN) is a point-to-point private line designed to provide high bandwidth Ethernet connectivity between locations within a metropolitan area. AT&T Ethernet Private Line MAN service features five fixed bandwidths: 50 Mbps, 150 Mbps, 300 Mbps, 600 Mbps and 1 Gbps. Use EPLS-MAN for large file transfers, sharing business resources among metropolitan locations and interoffice collaboration.")

[2] AT&T, *Corporate Profile: Global, National, Mid-Size, Regional and Government Portfolio*, http://www.att.com/gen/investor-relations?pid=5711; AT&T, *FAQs/General*, http://www.att.com/gen/press-room?pid=7373.

[3] AT&T Press Release, *AT&T Wins Global Networking Contract Worth Nearly $1 Billion from General Motors* (Feb. 21, 2007).

[4] Global Crossing, *Enterprise*, http://www.globalcrossing.com/enterprise/enterprise_landing.aspx.

[5] Global Crossing, *Carrier*, http://www.globalcrossing.com/carrier/carrier_landing.aspx.

[6] Global Crossing, *Carrier: Metro Network Service*, http://www.globalcrossing.com/carrier/carrier_metro_network.aspx.

[7] Global Crossing Press Release, *Global Crossing Holds Annual General Meeting of Shareholders* (June 13, 2007).

Verizon East footprint, including Albany, Boston, Buffalo, New York City, Philadelphia, Pittsburgh, Providence, Richmond, Syracuse, and Washington, DC.[8]

Level 3. Level 3 states that it is "the premier national, end-to-end, facilities based alternative to AT&T and Verizon."[9] In December 2005, Level 3 completed its acquisition of WilTel Communications.[10] In 2006, Level 3 acquired Progress Telecom, ICG Communications, TelCove and Looking Glass Networks.[11] In January 2007, Level 3 acquired Broadwing.[12] According to Kevin O'Hara, president and chief operating officer of Level 3, the company now operates "over 25,000 metro fiber route miles and more than 6,500 on-net buildings," and "is continuing to expand the reach of our network in metropolitan areas,"[13] Level 3 claims that there are "[o]ver 100,000 enterprise buildings within 500 feet of metro fiber in U.S."[14] Level 3 also reports that it "has embarked on a strategy to expand its current metro presence" so that it can "terminate traffic over its owned metro facilities rather than paying third parties to terminate the traffic."[15] Level 3 states that its "high fiber count metropolitan networks allow us to extend our services directly to our customers' locations at low costs, because the availability of this network infrastructure does not require extensive multiplexing equipment to reach a customer location, which is required in ordinary fiber constrained metropolitan networks."[16] Level 3 provides Metro Private Line service over its fiber network at speeds of "DS-1, DS-3, OC-3/3c & STM-1, OC-12/12c & OC-48/48c & STM-16/16c, [and] OC-192."[17]

As of January 2007, Level 3 reportedly had approximately 11,000 business customers, 60% of which are small-businesses, and 40% of which are large businesses.[18] Level 3 estimates that its Business Markets core services revenue will "grow in the mid to high teen % in 2007."[19]

---

[8] *See* Global Crossing, *Interactive Map*, http://www.globalcrossing.com/html/map05_11_05.html.

[9] R. Abdel, President, Business Markets Group, Level 3, presentation at 2007 Level 3 Analyst and Investor Conference, *From VoIP to Video: Making Sense of the Content (R)evolution* at 63 (Mar. 14, 2007), http://www.level3.com/brochures/investor_relations/AnalystConference2007.pdf.

[10] Level 3 Press Release, *Level 3 Completes WilTel Acquisition* (Dec. 23, 2005).

[11] Level 3 Press Release, *Level 3 Completes Progress Acquisition* (Mar. 20, 2006); Level 3 Press Release, *Level 3 Completes ICG Acquisition* (May 31, 2006); Level 3 Press Release, *Level 3 Reports Second Quarter Results* (July 25, 2006); Level 3 Press Release, *Level 3 Completes Looking Glass Networks Acquisition* (Aug. 3, 2006).

[12] *See* Level 3 News Release, *Level 3 Completes Acquisition of Broadwing* (Jan. 3, 2007).

[13] Level 3 Press Release, *Level 3 Completes Purchase of ATT Divestiture Assets* (Apr. 4, 2007).

[14] Kevin O'Hara, President and Chief Operating Officer, Level 3 Communications, Presentation at the Bear Stearns 18th Annual Technology/Communications/Internet Conference at 5 (June 11, 2007), http://www.level3.com/brochures/investor_relations/Bear_Stearn_Conference_June_2007_.pdf.

[15] Level 3 Communications, Inc., Form 10-Q at 45 (SEC filed May 10, 2007).

[16] Level 3 Communications, Inc., Form 10-K at 14 (SEC filed Mar. 1, 2007).

[17] Level 3, *Level 3 Metro Private Line Service*, http://www.level3.com/businessmarkets/services/transport_services/metro_privateline.html.

[18] D. Pappalardo, *Seven Things You Need To Know about Level 3*, Network World (Jan. 30, 2007), http://www.networkworld.com/news/2007/013007-level3-enterprise.html.

[19] Level 3, *From VoIP to Video: Making Sense of the Content (R)evolution*, Presentation at the Analyst and Investor Conference 2007 (Mar. 14, 2007), http://www.level3.com/brochures/investor_relations/AnalystConference2007.pdf (statement by Sureel Choksi, President, Wholesale Markets Group).

Level 3 expects its core services revenue "to grow in low to mid teen % in 2007."[20] Level 3 recently told investors that it "has dramatically improved its financial position as measured by: [i]ndustry leading revenue growth; [i]ncreasing operating margins; [c]apital efficiencies; and [i]mproved financial leverage."[21] Level 3's Wholesale Markets Group announced on July 31, 2007 an agreement to provide "intercity private line" and other services to Leap Wireless, to enable it "to connect its mobile switching centers to transport voice and data traffic over a single network."[22]

Qwest. Qwest offers "a unique and powerful combination of managed voice and data solutions for businesses, government agencies and consumers."[23] Qwest acquired OnFiber in September 2006.[24] Qwest's Wholesale division offers "National & Int'l Solutions" for cable MSOs, ILECs and IXCs, international service providers, ISPs, resellers, and wireless service providers.[25] Qwest's competitive local networks are estimated to span at least 5,200 route miles.[26]

Sprint. Sprint offers business customers "the solutions for all of your worldwide network access needs," including "flexible bandwidth options, secure data transport, robust VoIP solutions, a seamless migration path to IP and the ability to manage dissimilar network resources."[27] Sprint's service offerings include dedicated Internet access, Frame Relay, ATM, Private Line, and MPLS VPN services.[28] Sprint Wholesale Data services include dedicated Internet access ("from T1 to OC48 and Ethernet up to 10 GB"), Frame Relay ("up to 622 Mbps (OC12)"), and MPLS VPN.[29] Sprint recently reported that "[o]ver the last 18 months, Sprint has averaged monthly double-digit growth in its flagship Global MPLS VPN service."[30]

Time Warner Telecom. In October 2006, Time Warner Telecom acquired Xspedius, a facilities-based CLEC, expanding its service area to cover "75 U.S. metropolitan areas in 30

---

[20] *Id.* (statement by Raouf Abdel, President, Business Markets Group).

[21] *Id.* (Financial Overview by Sunit Patel, Chief Financial Officer).

[22] Level 3 Press Release, *Level 3 Provides Nationwide Services to Leap Wireless* (July 31, 2007).

[23] Qwest Press Release, *Qwest Reports Solid First Quarter 2007 Results – Margin Expansion and Growth in Net Income and EPS Continues* (May 1, 2007).

[24] Qwest Press Release, *Qwest Completes Acquisition of OnFiber Communications, Inc.* (Sept. 5, 2006).

[25] Qwest, *Qwest Wholesale*, http://www.qwest.com/wholesale/.

[26] New Paradigm Resources Group, Inc., *Competitive Carrier Report 2007*, Ch. 4 at Table 11 (21st ed. 2007) ("*NPRG 2007 Competitive Carrier Report*").

[27] Sprint, *IP Convergence*, http://www.nextel.com/en/solutions/ip_convergence/index.shtml?id12=Business_MedLargeTab_Link_IPConvergence.

[28] *Id.*

[29] Sprint, *The Data Services That Deliver Customers to Your Door*, http://www.sprint.com/wholesale/nl_products_data.html.

[30] Sprint Press Release, *Businesses Achieve Efficiency and Path for Future Growth with IP-Based Solutions from Sprint* (July 11, 2007).

states and the District of Columbia."[31] Time Warner Telecom's network consists of 8,092 route miles of metro fiber and 6,884 route miles of regional fiber (24,976 total route miles) as of March 31, 2007, with 7,689 buildings on-net and 19,622 Type II buildings as of March 31, 2007 (Type II buildings exclude Xspedius).[32] The company reports that it "provides communications services in tens of thousands of commercial buildings to reach over 60 percent of U.S. businesses."[33] In February 2007, Vertical Systems Group ranked Time Warner Telecom as the third-leading provider of business Ethernet services (based on a port share of 10.7 percent), behind AT&T and Verizon Business (13.6 and 12.2 percent, respectively).[34]

Time Warner Telecom reported that it "continue[s] to deliver strong enterprise growth," and "drive sales momentum."[35] March 2007 "was the highest sales month in the history of the Company, with continued strong momentum and a growing sales funnel going into the second quarter. In addition, our national enterprise segment achieved our largest enterprise customer sale to date. This was a terrific customer win and reflective of our growing sales opportunities."[36] For the first quarter of 2007, Time Warner Telecom reported year-over-year growth in total revenue (40 percent), enterprise revenue (57 percent), and data and Internet revenue (45 percent).[37]

XO. XO "is a full-service provider of communications services for small & growing businesses, larger enterprises and carriers."[38] "XO possesses a wealth of local fiber, DSL, fixed wireless, data networking, Internet and long-haul assets."[39] XO's networks includes more than 9,000 local route miles[40] with 3,000 buildings on-net; the company also holds fixed wireless licenses covering 95 percent of the top U.S. business markets.[41] XO recently reported that "[a]s a result of our initiatives and network investment, the company is well-positioned to expand its

---

[31] *See* Time Warner Telecom Press Release, *Frost & Sullivan Names Time Warner Telecom's Larissa Herda CEO of the Year* (Jan. 18, 2007).

[32] Time Warner Telecom Press Release, *Time Warner Telecom Reports Solid First Quarter 2007 Results* at 13 (May 2, 2007).

[33] Time Warner Telecom Press Release, *Frost & Sullivan Names Time Warner Telecom's Larissa Herda CEO of the Year* (Jan. 18, 2007).

[34] *See* Time Warner Telecom Press Release, *Vertical Systems Group Ranks Time Warner Telecom among Top 3 Providers of U.S. Ethernet Ports* (Feb. 5, 2007).

[35] Time Warner Telecom Press Release, *Time Warner Telecom Reports Solid First Quarter 2007 Results* at 1 (May 2, 2007) (statement by Time Warner Telecom Chairman, CEO, and President Larissa Herda).

[36] *Id.* (statement by Time Warner Telecom Chairman, CEO, and President Larissa Herda).

[37] *Id.*

[38] XO, *Our Story: Overview*, http://www.xo.com/about/ourstory/index.html.

[39] *Id.*

[40] XO Communications, Form 10-Q at 15 (SEC filed May 10, 2007).

[41] XO, *Our Story: Network Assets*, http://www.xo.com/about/ourstory/networkassets.html.

share of the enterprise and carrier services markets, leveraging our unrivalled combination of metro, inter-city and wireless networks."[42]

XO reported that 2006 "was a strong and pivotal year for the company, setting the stage for a promising 2007."[43] "For the full year, our core services revenue grew 5 percent and data and IP services revenue grew 16 percent year-over-year. This is the result of increased customer demand and improving industry dynamics."[44] In January 2007, XO announced that more than 100,000 business customer employees at more than 7,500 businesses nationwide are using XO's VoIP service.[45]

B. Regional Providers

AboveNet. AboveNet is a facilities-based services provider that offers wholesale high-capacity local access and transport services in 14 U.S. markets, including New York, Boston, Chicago, Dallas, Philadelphia, and Washington, DC.[46] AboveNet states that it "provides an alternative to local carriers through a dedicated private fiber optic network that helps manage risk and extend access, by providing physical diversity, a choice of vendors, and a broader range of local and nationwide services."[47] AboveNet networks total more than 1.5 million fiber miles worldwide, with more than 1,300 lit buildings.[48] AboveNet's Metro Ethernet service is a "point to point Gigabit Ethernet solution featuring exclusively dedicated metro fiber connecting two or more customer locations," with "[f]ast deployment for 4800 on-net buildings."[49] AboveNet acquired "IRUs in, or service agreements for, 60 building access fiber connections held by AT&T in Los Angeles and Chicago as well as 180 building access fiber connections held by Verizon in New York, Washington/Baltimore and Philadelphia."[50]

Broadview Networks. In September 2006, Broadview completed its acquisition of ATX Communications,[51] and in May 2007, acquired InfoHighway.[52] According to Broadview, "[t]he combined company serves approximately 80,000 small and mid-sized business customers in 20 markets from Maine to Virginia, including major metropolitan areas such as New York,

---

[42] *See* XO Press Release, *XO Holdings Reports Strong Financial Results for 2006* (Mar. 16, 2007) (statement by XO Holdings Chief Executive Officer Carl Grivner).

[43] *See id.* (statement by XO Holdings Chief Executive Officer Carl Grivner).

[44] *Id.*

[45] XO Press Release, *XO Communications Marks 100,000 Business VoIP Users* (Jan. 24, 2007).

[46] AboveNet, *About AboveNet*, http://www.above.net/about/.

[47] *Id.*

[48] *Id.*.

[49] AboveNet, *AboveNet Metro Ethernet*, http://www.above.net/products/transport-metroenet.html.

[50] AboveNet Press Release, *AboveNet Acquires Metro Fiber from AT&T and Verizon* (Apr. 4, 2007).

[51] *See* Broadview Networks Press Release, *Broadview Networks Completes Acquisition of ATX Communications and New Debt Offering* (Oct. 12, 2006).

[52] *See* Broadview Networks Press Release, *Broadview Networks Completes Acquisition of InfoHighway Communications* (June 7, 2007).

Philadelphia, Boston, and the Baltimore-Washington corridor."[53] Broadview President and CEO, Michael Robinson, states that Broadview has "robust direct and indirect sales channels and significant market density, particularly in New York, Pennsylvania, and New England," including "over 2,400 route miles of fiber, approximately 250 colocations, over 500 lit commercial office buildings, and more than 800,000 lines in service."[54] Broadview's data service offerings include Private IP service using MPLS[55] and dedicated Internet T1 service at speeds of 1.5 to 3 Mbps.[56]

360networks. 360networks is a facilities-based provider that offers wholesale high-capacity DS-1, DS-3, OCn-level and Private Line services to telecommunications providers in 15 western states.[57] Their network spans over 17,200 route miles in 40 U.S. markets, including Chicago, Dallas, Los Angeles, and Seattle.[58] 360networks states that it "provide[s] your business with its own dedicated data highway to transmit all of your data, video, and voice traffic quickly and securely. In addition to scalable bandwidth options, 360networks' Private Line solution gives you peace of mind and control over your company's communications network."[59]

Cavalier Telephone and TV. In January 2006, Cavalier Telephone completed the acquisition of Elantic Telecom (formerly known as Dominion Telecom), allowing Cavalier to "merg[e] two of [the] East Coast's largest fiber networks."[60] The company, now known as Cavalier Telephone and TV, states that it is "a financially solid, rapidly growing Competitive Local Exchange Carrier (CLEC) operating in 15 states and DC throughout the eastern US," with "over $1 billion in network assets," including 3,000 route miles of metro fiber and 8,000 intercity route miles, that reach "more than 1.5 million businesses."[61] Cavalier's CavDirect Connect Private Line service provides "[h]igh-speed, secure, site-to-site connectivity" for "[p]rivate,

---

[53] *See id.*

[54] Broadview Networks Press Release, *Broadview Networks To Acquire InfoHighway Communications* (Feb. 26, 2007); Broadview Networks Press Release, *Broadview Networks Completes Acquisition of InfoHighway Communications* (June 7, 2007).

[55] Broadview Networks, *Broadview Networks Private IP*, http://www.broadviewnet.com/Products_Services/Business/PrivateIP.asp?scenario=0.

[56] Broadview Networks, *Broadspeed® Dedicated Internet T1*, http://www.broadviewnet.com/Products_Services/Business/Data_DedicatedT1.asp?scenario=0.

[57] 360networks, *Business-Critical Applications To Keep You Competitive*, http://www.360networks.com/default.asp?ID=8. 360networks offers service in Arizona, California, Colorado, Idaho, Illinois, Minnesota, Montana, Nevada, New Mexico, North Dakota, Oregon, Texas, Utah, Washington, and Wyoming. 360networks, *360networks Markets*, http://www.360networks.com/default.asp?ID=12.

[58] 360networks, *Communications with Backbone – Now You're Talking!*, http://www.360networks.com/; 360networks, *360networks Markets*, http://www.360networks.com/default.asp?ID=12.

[59] 360networks, *Business-Critical Applications To Keep You Competitive*, http://www.360networks.com/default.asp?ID=8.

[60] Cavalier Telephone Press Release, *Cavalier Telephone Acquires Elantic Telecom, Merging Two of East Coast's Largest Fiber Networks* (Jan. 30, 2006).

[61] Cavalier, *For Business*, http://www.cavtel.com/forbusiness/; Cavalier, *About Cavalier*, http://www.cavtel.com/about/.

secure transmission of critical data or voice traffic," and its Frame Relay service provides "[s]ecure site-to-site connectivity with 'best effort' performance for delay tolerant traffic."[62]

Edison Carrier Solutions. Edison Carrier Solutions, a business unit of Southern California Edison Company (SCE), is "focused on providing high capacity special access services, starting as DS-3 and above," to "all types of local telecommunications service providers, Internet service providers and application service providers in the Southern California area."[63] The company also "provide[s] infrastructure to wireless service providers for wireless site development."[64] Edison Carrier Solutions operates more than 3,000 route miles of fiber and over 115 PoPs over a service area of more than 55,000 square miles.[65] It claims to operate "[t]he largest competitive carrier fiber network in Southern California," with "on-net connectivity to 45 network locations such as Carrier Hotels and POP locations," and "[d]iverse building entrances to 90% of all locations."[66]

FiberNet. FiberNet Telecom Group is a "[f]acilities-based provider of data services for carrier and enterprise customers."[67] FiberNet "owns and operates integrated colocation facilities and diverse transport routes in the two gateway markets of New York/New Jersey and Los Angeles," which are "designed to provide comprehensive broadband interconnectivity for the world's largest network operators, including leading domestic and international telecommunications carriers, service providers and enterprises."[68] "In total, FiberNet reaches more than 200 network nodes and over 700 carrier networks."[69] FiberNet has been "EBITDA positive since December 2001" with a "[c]onsistent track record of revenue growth."[70]

Fibertech Networks. Fibertech Networks says it "is the alternative fiber infrastructure provider to the legacy telephone and cable companies" "[a]cross 20 mid-size markets in the Northeast and Midwest."[71] The company states that it has "built metro-area networks strategically connecting local Telco central offices, carrier hotels, data centers, office parks and other high traffic locations."[72] Fibertech leverages its "deep metro fiber optic network footprint"

---

[62] Cavalier, *For Business: Data Solutions for Business*, http://www.cavtel.com/forbusiness/data.php.

[63] Edison Carrier Solutions, *Home*, http://www.edisonconnect.com/home/default.asp.

[64] Edison Carrier Solutions, *Home*, http://www.edisonconnect.com/home/default.asp.

[65] *Id.*

[66] Edison Carrier Solutions, *Network*, http://www.edisonconnect.com/network/default.asp.

[67] FiberNet, *Overview Presentation* (May 14, 2007), http://www.ftgx.com/downloads/ftgxoverviewpresentation.pdf.

[68] FiberNet Telecom Group, Inc., Form 10-Q at 17 (SEC filed May 15, 2007).

[69] FiberNet, *Overview Presentation* (May 14, 2007), http://www.ftgx.com/downloads/ftgxoverviewpresentation.pdf.

[70] *Id.*

[71] Fibertech Networks, *About Us*, http://www.fibertech.com/about.cfm. The company's core networks include Buffalo, Syracuse, Rochester, Binghamton, White Plains, and Albany, NY; Providence, RI; Pittsburgh, PA; Indianapolis, IN; Columbus, OH; Hartford, Stamford, Bridgeport, New Haven, New London, and Danbury, CT; Worcester and Springfield, MA; Concord, NH; Montgomery County, MD; and Wilmington, DE. Fibertech Networks, *About Fibertech/Fact Sheet*, http://www.fibertech.com/about_factsheet.cfm.

[72] Fibertech Networks, *About Fibertech/Fact Sheet*, http://www.fibertech.com/about_factsheet.cfm.

to offer carriers "lit metro access services or dark fiber optic connections" that allow "reduced dependency on the LEC."[73] Enterprises "can choose from Private Line T1s to OC-192 connections, Ethernet from 3 to 100 Mg and beyond, business-class dedicated Internet access, collocation or the unlimited bandwidth of dark fiber optics – all delivered on end-to-end fiber optic connections."[74] The company states that it is "unrivaled in its ability to extend its fiber networks cost-effectively into individual business locations to provide high performance, customized network solutions."[75] In April 2007, Fibertech completed a 15-mile fiber-optic network ring located in and around Montgomery County, Md.[76]

FPL Fibernet. FPL Fibernet, a subsidiary of Florida Power and Light, "provides connectivity to the major telecom centers in [Florida], including leading carrier hotels, NAP initiatives, cable heads and large central offices."[77] FPL Fibernet operates "more than 2,500 route miles of high-quality dark/lit fiber in Florida" and has "access to more than 8,600 miles of fiber optic cable through partnerships with regional providers."[78] The company offers SONET transport services from DS1 to OC192, Metro Ethernet services up to 1000 Mbps, as well as FTTx and wireless solutions, including point-to-point microwave solutions.[79]

Frontier. In March 2007, Citizens Communications Company completed the acquisition of Commonwealth Telephone Enterprises, a Pennsylvania ILEC, which also operated a CLEC known as CTSI; the combined company operates in Pennsylvania as Frontier Communications Solutions.[80] Frontier Carrier Services offers "[t]argeted deployment in dense business districts" "[w]hether you need dedicated access for your customers, or a network to link your customers in Pennsylvania to the rest of the world."[81] Frontier operates a network "with multiple POP's and a hub. . . in Philadelphia," which "connects you to Eastern Pennsylvania," and the Frontier Communications Solutions (ILEC) network "spans Eastern, Central and South Central Pennsylvania."[82] Frontier Carrier Services includes speeds from DS0 to OC48, dark fiber services, PRI services, ATM services, and VPNs.[83]

Integra Telecom/Electric Lightwave (ELI). In July 2006, Integra Telecom completed the acquisition of Electric Lightwave, positioning the company "to be the premiere provider of

---

[73] Fibertech Networks, *About Us*, http://www.fibertech.com/about.cfm.

[74] *Id.*

[75] Fibertech Networks, *About Fibertech/Fact Sheet*, http://www.fibertech.com/about_factsheet.cfm.

[76] Fibertech Networks Press Release, *Fibertech Launches New Fiber Optic Network in Montgomery County, Maryland* (Apr. 23, 2007).

[77] FPL FiberNet, *Company Information*, http://www.fplfibernet.com/capabilities/contents/overview.shtml.

[78] FPL FiberNet, *Why FPL FiberNet?*, http://www.fplfibernet.com/capabilities/contents/why_fpl_fibernet.shtml.

[79] FPL FiberNet, *What We Provide*, http://www.fplfibernet.com/capabilities/contents/products_and_services.shtml.

[80] Citizens Communications Press Release, *Citizens Communications Completes Acquisition of Commonwealth Telephone Enterprises* (Mar. 8, 2007).

[81] Frontier, *Carrier Services*, http://www.ctsi1.com/carrier/index.html.

[82] Frontier, *Carrier Services: Network*, http://www.ctsi1.com/carrier/carrier_network.html.

[83] Frontier, *Carrier Services: Products*, http://www.ctsi1.com/carrier/carrier_products.html.

competitive telecom and data services for businesses in the Western U.S."[84] Integra "owns and operates an eight-market, 2,200 route mile (160,000 fiber miles) metropolitan area network, with direct fiber access into over 580 major commercial buildings."[85]

Integra's wholesale carrier business is branded Electric Lightwave.[86] Its customers "gain access to twenty-three metropolitan access networks in eight western states, a nationally acclaimed tier one internet and data network, and high speed long-haul fiber-optic network that interconnects major markets in the West."[87] Electric Lightwave offers private line services from DS1 to OC192 (10 Gbps), as well as Ethernet private line services from 10BaseT (10 Mbps) to Gigabit Ethernet (1000 Mbps).[88]

In March 2007, Integra announced an agreement to acquire Eschelon Telecom.[89] Upon completion of the transaction, which is expected to close during the third quarter of 2007, Integra Telecom "will serve an average of 20 percent of the businesses in the metropolitan areas in which it operates in 11 Western and Midwestern states," with combined annual revenue predicted to be in excess of $700 million.[90] "Much of Eschelon's traffic, which was previously routed over leased facilities from other carriers, will now be routed over Integra's extensive metropolitan area and intercity fiber networks."[91]

ITC^Deltacom. ITC^Deltacom (also known as Deltacom)[92] operates a 15,500 route-mile fiber-optic network "with extensive coverage of the southeast, allowing the company to offer a comprehensive suite of voice and data services uniquely positioned to support the enterprise space."[93] Its network covers 14 states with 240 PoPs and 300 collocations.[94] According to its network maps, ITC^Deltacom serves many of Verizon's markets, including New York City, Philadelphia, Raleigh, Richmond, Tampa, and Washington, DC.[95] The company markets its services to "Fortune 1,000 end-user customers in the southeastern United

---

[84] Integra Telecom News Release, *Integra Telecom Closes Acquisition of Electric Lightwave* (Aug. 1, 2006) (statement by Integra Telecom CEO Dudley Slater).

[85] Integra Telecom, *Network and Facilities*, http://www.integratelecom.com/about/network_and_facilities.asp.

[86] Integra Telecom News Release, *Integra Telecom Successfully Completes Several Major Electric Lightwave Integration Milestones* (Feb. 21, 2007).

[87] Electric Lightwave, *Welcome to Electric Lightwave*, http://www.electriclightwave.com/.

[88] Electric Lightwave, *Metro Private Line Access*, http://www.electriclightwave.com/products/metro_private_line.asp.

[89] Integra Telecom News Release, *Integra Telecom, Inc. To Purchase Eschelon Telecom, Inc.* (Mar. 20, 2007).

[90] *Id.*

[91] *Id.*

[92] Deltacom Press Release, *ITC^DeltaCom Communications, Inc. Changes Name to DeltaCom, Inc. and Introduces New Logo and Tag Line* (Apr. 11, 2006).

[93] Deltacom Press Release, *Deltacom Selects Infinera for Southeastern Network* (June 15, 2007).

[94] Deltacom, *About Us > Our Network*, http://www.deltacom.com/network.asp.

[95] *See* Deltacom, *About Us > Fiber Optic Network*, http://www.deltacom.com/fiberoptic_network.asp.

States."[96] Deltacom's Interstate FiberNet unit provides carrier services in Florida, Georgia, North Carolina, South Carolina, and Tennessee, where "service offerings range from DS-1. . . through OC-48."[97]

ITC^DeltaCom reported a 25 percent annualized sequential growth rate in EBITDA for the first quarter of 2007 to $16.8 million, representing a 41 percent increase over the first quarter of 2006.[98] The company "[g]rew its core, facilities-based business voice lines in service" with "an annualized growth rate of approximately 18%."[99] ITC^DeltaCom also "[i]ncreased the percentage of local retail voice lines for which service is provided on its own network [from 70%] to 77%."[100]

KeySpan Communications. KeySpan Communications provides "dark fiber and bulk bandwidth throughout the New York metropolitan region" "for small, local communications carriers to the largest international carriers."[101] KeySpan is the "owner, operator and developer of a 57,000 fiber-mile optical communications network in New York and Long Island."[102] In Manhattan, Brooklyn/Queens and Long Island KeySpan offers SONET private line, Ethernet VLAN, and wavelength service.[103] KeySpan is in the process of being acquired by National Grid plc; the FCC approved the license transfer on July 31, 2007.[104]

McLeodUSA. McLeodUSA is a facilities-based competitor that provides data services to "small and medium-sized business in nearly 500 cities [in 20 states] throughout the Midwest, Rocky Mountain, Southwest and Northwest regions."[105] McLeodUSA service offerings include

---

[96] Deltacom Press Release, *Deltacom Selects Infinera for Southeastern Network* (June 15, 2007).

[97] Deltacom, *Interstate FiberNet: Metro Network Services*, http://www.deltacom.com/carrier/network.asp.

[98] ITC^DeltaCom Press Release, *ITC^DeltaCom Reports 2007 First Quarter Results* (May 10, 2007).

[99] *Id.*

[100] *Id.*

[101] KeySpan Energy, *KeySpan Communications*, http://www.keyspanenergy.com/psbusiness/comm/index_ny_ny.jsp; KeySpan Energy, *Dark Fiber Services*, http://www.keyspanenergy.com/psbusiness/comm/dark_fiber_ny_ny.jsp.

[102] KeySpan Energy, *KeySpan Communications,* http://www.keyspanenergy.com/psbusiness/comm/index_ny_ny.jsp.

[103] KeySpan Energy, *Bandwidth Services,* http://www.keyspanenergy.com/psbusiness/comm/bandwidth_ny_ny.jsp.

[104] *See* National Grid, *Key Information on Acquisition*, http://www.nationalgrid.com/corporate/Investor+Relations/Acquisitions/KeySpan; FCC Public Notice, *Domestic Section 214 Authorization Granted*, WC Docket No. 07-55, DA 07-3485 (July 31, 2007).

[105] McLeodUSA, *About Us: Corporate Profile*, http://www.mcleodusa.com/CompanyInformation/CorporateProfile.do; McLeodUSA, *About Us: The McLeodUSA Network*, http://www.mcleodusa.com/CompanyInformation/OurNetwork.do.

Private Line service at speeds up to OC3 (155 Mbps),[106] McLeodUSA's network spans approximately 17,000 total route miles, with approximately 1,500 buildings on-net.[107]

National Grid Wireless. National Grid Wireless labels itself a "carrier neutral provider" that allows other carriers "to aggregate backhaul traffic, connect switching centers, transmit voice/data, and access competitive service offerings."[108] The company owns fiber rings "in major metropolitan areas throughout New England" which are "bundled with access to rights-of-way and pre-secured easements."[109] Its "turnkey" services include "wireless infrastructure, fiber networks, and wireless services throughout the United States."[110] In May 2007, the company announced that National Grid plc has agreed to sell National Grid Wireless US to M/C Venture Partners and Wachovia Capital Partners; the company will continue operations as National Grid Wireless US.[111]

NEON. NEON Communications Group is a "facilities-based bandwidth provider[]" with a "dense build network, with more than 200 Points of Presence," that serves "wireless carriers, long distance carriers, enterprise customers, competitive local exchange companies (CLECs), Internet service providers (ISPs), and cable television operators."[112] NEON's "12-state, $300-billion market encompasses 25 percent of the nation's communications market and extends from New England, New York City, and the north Atlantic coast to Philadelphia, Baltimore, Washington, DC, and into Virginia."[113] NEON's customers "leverage the NEON network to reach more than 500,000 businesses and 18 million households in the dense Northeast and mid-Atlantic market."[114] NEON's network spans approximately 4,800 route miles and more than 230,000 fiber miles.[115] In June 2007, NEON announced that it has agreed to be acquired by RCN; the transaction is expected to close during the fourth quarter of 2007.[116]

NextG Networks. NextG Networks is "a facilities-based carrier's carrier that designs, permits, builds, owns, operates and manages Distributed Antenna System (DAS) networks that enhance wireless performance."[117] The company states that "[m]ost major wireless carriers have

---

[106] McLeodUSA, *Internet & Data Services: Private Line*, http://www.mcleodusa.com/ProductDetail.do?com.mcleodusa.req.PRODUCT_ID=340920.

[107] *NPRG 2007 Competitive Carrier Report*, Ch. 6 – McLeodUSA, Inc. at 1.

[108] National Grid Wireless, *Dark Fiber*, http://www.us.nationalgridwireless.com/content/fiber-networks/dark-fiber/index.jsp.

[109] *Id.*

[110] National Grid Wireless Press Release, *Change of Ownership* (May 17, 2007).

[111] *Id.*

[112] NEON Communications Group, *Company*, http://www.neoninc.com/pages/2_company.cfm.

[113] *Id.*

[114] *Id.*

[115] *Id.*

[116] NEON Communications Group Press Release, *RCN To Acquire NEON Communications Group for Up to $5.25 per Share* (June 25, 2007).

[117] NextG Networks, *Home*, http://www.nextgnetworks.net/.

used NextG Networks and its patented technology to build cost-effective, distributed antenna systems in communities across the US."[118] "In areas where NextG does not yet operate, NextG can install, manage, and maintain the most advanced wireless network available in 9 months. Carriers who want fast, effective networks in areas that would otherwise take them years to cover using traditional towers and individually negotiated rooftop antenna installations, come to NextG for the most advanced, flexible metro area wireless networks available."[119] NextG's "[n]etwork [f]lexibility" includes fiber-optic networks that "can be ring or line configuration, aerial or underground."[120] The company "owns fiber assets across the US and has virtually unlimited access to dark and existing fiber resources nationwide. NextG fiber assets are used specifically for RF-over-fiber, wireless backhaul, and broadband wireless traffic."[121]

Earlier this year, the company announced that it had its "[b]est [y]ear [y]et in 2006," having initiated projects that "added up to 1,000 nodes and fiber route miles to NextG's portfolio," and tripling its contract values compared to previous years.[122] NextG stated that "[w]ireless service providers, municipalities and universities are increasingly leveraging the added value and enhanced performance of NextG's DAS networks."[123]

NTS Communications. NTS provides business customers with "point-to-point and point-to-multipoint solutions" using NTS's "intelligent state-of-the-art fiber optic network as a backbone."[124] NTS offers "dedicated point-to-point transport and wholesale Internet access services to wholesale carrier customers from every corner of the United States."[125] NTS operates a network in Texas that spans approximately 7,150 route miles, with approximately 2,500 buildings connected.[126]

One Communications. One Communications – formed through the merger of Choice One Communications, CTC Communications, and Conversent Communications – claims to be "the largest privately-held competitive local exchange carrier in the United States."[127] One Communications has "[m]ore than 160,000 business customers."[128] The company states that its

---

[118] NextG Networks, *Wireless Service Providers*, http://www.nextgnetworks.net/wireless/index.html.

[119] NextG Networks, *Wireless Service Providers: More Detail*, http://www.nextgnetworks.net/wireless/detail.html.

[120] *Id.*

[121] NextG Networks, *Technology: Network Operations*, http://www.nextgnetworks.net/technology/networkoperations.html.

[122] NextG Networks Press Release, *NextG Networks Has Best Year Yet in 2006* (Feb. 28, 2007).

[123] *Id.* (statement by NextG Networks CEO John Georges).

[124] NTS Communications, *Business: Data*, http://www.ntscom.com/business_data.php?id=smenu2.

[125] NTS Communications, *Business: Wholesale Services*, http://www.ntscom.com/business_wholesale.php?id=smenu2.

[126] *NPRG 2007 Competitive Carrier Report*, Ch. 6 – NTS Communications, Inc. at 1, 7.

[127] One Communications Press Release, *Choice One Communications and CTC Communications Finalize Merger; Simultaneously Complete Acquisition of Conversent Communications* (July 3, 2006).

[128] One Communications, *Our Customers*, http://www.onecommunications.com/our-company/one-customer-testimonials.aspx?TierSlicer1_mtid=46&TierSlicer1_mtt=4&TierSlicer1_mid=8.

"vast next generation IP network includes more than 10,000 route miles of fiber connecting 700 collocation facilities in 16 states throughout the Northeast, Mid-Atlantic and Upper Midwest regions of the United States."[129] Its Metro Private Line offer "a fully protected, dedicated DS1, DS3, or OCSN circuit with full channel, point-to-point capacity."[130]

PAETEC. PAETEC Communications is a national communications solutions provider specializing in IP-based services. PAETEC and US LEC Corp. completed their merger at the end of February 2007,[131] which "nearly double[d] the size of [PAETEC's] business"[132] and "creat[ed] one of the largest competitive telecommunications providers in the United States."[133] According to the company, PAETEC now has "nearly 2,300 employees serving more than 45,000 medium-sized and large business customers."[134] PAETEC serves "52 of the top 100 Metropolitan Service Areas in the United States, and offers data services everywhere in the United States."[135] Prior to its merger with US LEC, PAETEC's network spanned 9,000 route miles (24 million fiber miles).[136]

PAETEC's data offerings include dedicated Internet access (T1 through OCn), burstable Internet access (Ethernet through OCn), and MPLS VPN services.[137] In June 2007, PAETEC launched its Ethernet Local Loop transport service "to support MPLS and Internet services."[138] "PAETEC's Ethernet Local Loop provides a transport service that's scalable, available in incremental speeds and, because it's based on common Ethernet technology, can reduce equipment costs."[139] PAETEC announced adjusted EBITDA of $34.2 million for the first quarter of 2007, which represented a 52.5 percent increase over the first quarter of 2006.[140] According to the company, "[t]he increase in revenue – and subsequently adjusted EBITDA – was driven by an increase in network services revenue of 42.3%."[141]

PPL Telcom. PPL Telcom "provides broadband connectivity . . . for telecommunications companies, wireless and Internet service providers and large businesses and

---

[129] One Communications, *Unique Footprint*, http://www.onecommunications.com/products/carrier/carrier-network-map.aspx.

[130] One Communications, *Metro Private Line*, http://www.onecommunications.com/products/carrier/carrier-metro-private-line-service.aspx.

[131] *See* PAETEC Press Release, *PAETEC and US LEC Complete Merger* (Feb. 28, 2007).

[132] PAETEC, *Message from the CEO*, http://www.paetec.com/ceomessage/ceomessage.html.

[133] PAETEC Press Release, *PAETEC Holding Corp. Announces 2007 First Quarter Results* (May 9, 2007).

[134] PAETEC Press Release, *PAETEC and US LEC Complete Merger* (Feb. 28, 2007).

[135] PAETEC, *Markets Served*, http://www.paetec.com/strategic/markets_served.html.

[136] *NPRG 2007 Competitive Carrier Report*, Ch. 6 – PAETEC Communications, Inc. at 1.

[137] PAETEC, *PAETEC Products & Services Portfolio*, http://www.paetec.com/downloads/press_kit/ProductsServices2_20.pdf.

[138] PAETEC Press Release, *PAETEC Launches MPLS, IP Ethernet Service* (June 26, 2007).

[139] *Id.* (statement by PAETEC Chief Marketing Officer Jack Baron).

[140] PAETEC Press Release, *PAETEC Holding Corp. Announces 2007 First Quarter Results* (May 9, 2007).

[141] *Id.*

institutions."[142] PPL Telcom's network "utilizes more than 4,000 route miles of fiber with advanced optical systems and provides service to customers through the northeast corridor from New York to Washington, D.C."[143] PPL Telcom offers "[c]onnectivity through Private Line from T1 to OC-192, Ethernet from 10 Mbps to 1 Gbps, IP Services (Dedicated Internet Access), and wavelengths at 1 Gbps, 2.5Gbps and 10Gbps speeds."[144] PPL Telcom's parent company, PPL Corporation, recently agreed to sell its PPL Telcom subsidiary to Communications Infrastructure Investments to allow the energy company "to focus on [its] core energy supply and delivery businesses"; the transaction is expected to close by the end of third quarter 2007.[145]

II. CABLE OPERATORS

Each of the major cable operators provides a variety of services that substitute for the services that may be provided over high-capacity special access facilities obtained from Verizon and other ILECs. Cable operators offer data and voice services over their Hybrid Fiber Coaxial ("HFC") networks, and also are deploying fiber to serve enterprise and carrier customers, including wireless providers.

Comcast. Comcast's CEO has stated that commercial services represent the "next great business opportunity" for Comcast, and that it will do the "same thing" in the enterprise market as it has done in the mass market.[146]

Broadband. Comcast Workplace is a cable modem service for business customers that offers download speeds of up to 8 Mbps and upload speeds of up to 1 Mbps.[147] Comcast reports that "approximately $200 million of [its] commercial services revenues are cable modem-based services."[148]

Voice. Comcast states that it is "in the process now of launching . . . into voice."[149] It considers 20 percent penetration of the $15 billion enterprise market to be "very achievable" by 2011.[150] One analyst reported that "[t]he company has the local customer care and support

---

[142] PPL Telcom, *About*, http://www.ppltelcom.com/about.html.

[143] *Id.*

[144] *Id.*

[145] PPL Corp. Press Release, *PPL Reaches Agreement To Sell Its Telecommunication Subsidiary* (May 24, 2007); PPL Corp. Press Release, *PPL To Sell Its Telcom Subsidiary* (May 1, 2007).

[146] *See Comcast Corporation at Citigroup 17th Annual Entertainment, Media and Telecommunications Conference – Final*, FD (Fair Disclosure) Wire, Transcript 010907aw.757 (Jan. 9, 2007) (statement by Comcast Chairman and CEO Brian Roberts).

[147] *See* Comcast, *Comcast Workplace Enhanced,* http://www.comcast.com/corporate/shop/business/cw_enhanced.html.

[148] T.O. Seitz, *et al.*, Lehman Brothers, *Cable Should Not Impede RBOC SMB Growth* at 14 (June 6, 2007).

[149] *Comcast Corporation at Merrill Lynch US Media Conference – Final*, FD (Fair Disclosure) Wire, Transcript 060707au.759 (June 7, 2007) (statement by Comcast Corp. EVP and Co-CFO John Alchin).

[150] *Id.* (statement by Comcast Corp. EVP and Co-CFO John Alchin).

necessary to be successful and has brought in a former key manager of Cox's business unit to execute on the opportunity."[151]

Fiber. In addition to data and voice transferred over HFC, Comcast offers enterprise customers what it calls "a very rich fiber experience."[152] The company has deployed "fiber deep into where our customers are present, either in the residential side or along where the commercial businesses are."[153] Comcast executives state that this networks allows them to serve the communications needs of the education, government, and healthcare sectors, which "matches neatly to our capabilities and our footprint."[154] Already 20 percent, or $50 million, of the company's business revenue in 2006 was from fiber-based services for large commercial customers.[155] Comcast has projected significantly higher capital expenditures, at more than $3 billion over the next five years, and "preliminary plans appear to call for a more fiber intensive buildout that could support higher margins."[156]

Wireless Backhaul. According to one industry source, Comcast is offering Ethernet-based wireless backhaul services and is "tailoring them to meet the demand of wireless carriers."[157]

Cablevision. Cablevision's COO Tom Rutledge told company investors in March 2007 that "we think there is a significant opportunity to take share out of the small business marketplace and the large business marketplace," which he estimates at "a $6 billion spend right now by small businesses and large businesses inside our footprint for telecom."[158] Cablevision has "identified over 600,000 businesses inside our footprint that we passed with cable that were serviceable today," using Cablevision's *existing* plant that was originally deployed to serve residential customers.[159] Cablevision accordingly "began marketing those buildings last year,

---

[151] T. Horan, *et al.*, CIBC World Markets, *Comcast Analyst Day Highlights: We Are Bullish on New Opportunities* at 2 (May 2, 2007).

[152] *Comcast Investor Day A.M. Session – Final*, FD (Fair Disclosure) Wire, Transcript 050107ai.739 (May 1, 2007) (statement by Comcast Business Services President Bill Stemper).

[153] *Investor Day P.M. Session – Final*, FD (Fair Disclosure) Wire, Transcript 050107aw.753 (May 1, 2007) (statement by Comcast EVP for National Engineering & Technology Operations John Schanz).

[154] *Comcast Investor Day A.M. Session – Final*. FD (Fair Disclosure) Wire, Transcript 050107ai.739 (May 1, 2007) (statement by Comcast Business Services President Bill Stemper).

[155] T.O. Seitz, *et al.*, Lehman Brothers, *Cable Should Not Impede RBOC SMB Growth* at 14 (June 6, 2007).

[156] Q. Hasan, *et al.*, The Buckingham Research Group, *Cable Goes Commercial: Examining Cable's Next Growth Phase* at 28 (Jan. 11, 2007).

[157] *See* M.J. Richter, *Opportunity Knocks at Cable's Door*, Tellabs Emerge (Fall 2006), http://www.tellabs.com/news/reprints/opportunity_fall06-reprint.pdf.

[158] Thomson Street Events, *CVC – Cablevision Systems Corp. at Banc of America Media, Telecommunications & Entertainment Conference*, Transcript at 2 (Mar. 28, 2007) ("Cablevision/Rutledge MTE Conf. Tr.").

[159] Cablevision/Rutledge MTE Conf. Tr. at 7. Cablevision determined this by "build[ing] a database" by "collect[ing] various business databases and we physically walked out our plant and identified all the small businesses inside our footprint and cross-referenced them against all the various databases." *Id.* Through this process, Cablevision determined that its existing cable plant could be used to serve 600,000 businesses because its "physical assets on the poles or in the conduits were in front of that building and all we needed to do was put in an installation drop to create connectivity to that building." *Id.*

and we are now in the middle of earnestly marketing the 600,000 business marketplace."[160] According to one of Cablevision's partners in serving business customers, Cisco, Cablevision has "more than 30,000 business accounts throughout Long Island, Westchester County, and New York City, Connecticut; and New Jersey,"[161] and "delivers more than 140,000 access lines, 2,100 dedicated high-speed Internet circuits and 25,000 broadband connections to its business customers."[162]

Broadband. Cablevision offers Optimum Online for Business, which it describes as a "super-fast, reliable and affordable broadband service that's ideal for just about any business."[163] Optimum Online for Business is a "super-fast" service "with downstream speeds up to 15 Mbps and upstream of 2 Mbps."[164] Cablevision's commercial broadband service "is more than five times faster than comparably priced DSL" and "is delivered via the hybrid coax (HFC) network owned and operated by Cablevision."[165]

Voice. Cablevision offers "Optimum Voice for Business" for "local, regional and long distance calling . . . for one low, fixed per-line monthly rate; a rate that could save you as much as 60 percent per month, or more."[166] One analyst noted that "Cablevision has taken an early lead in marketing multi-port MTAs and voice / data bundles to SME customers within its footprint, and is doing so at heavily discounted rates relative to incumbent solutions currently in the marketplace."[167]

Fiber. Cablevision states that it "has invested more than $1 billion in the network technology and infrastructure needed to build Optimum Lightpath's most significant asset: our fiber optic network. This state-of-the-art, all-digital network comprises more than 2,700 miles of fiber optic cable (nearly 113,000 miles of actual fiber)."[168] Cablevision's COO states that Cablevision has "more fiber in the [New York/New Jersey/Connecticut] tri-state area" "than any phone company,"[169] and that Cablevision already has fiber service to twice as many buildings in its metropolitan New York footprint as Verizon does.[170] The company has "developed an

---

[160] Cablevision/Rutledge MTE Conf. Tr. at 7.

[161] Cisco Systems, *Case Study: Lightpath Responds to Data Demands of Business Customers*, http://www.cisco.com/en/US/netsol/ns579/networking_solutions_customer_profile0900aecd803097bc.html.

[162] *Id.*

[163] Optimum, *Optimum Online for Business: Features*, http://www.optimum.com/business/ool/features.jsp.

[164] Optimum, *Optimum Online for Business*, http://www.optimum.com/business/ool/index.jsp.

[165] Optimum, *Optimum Online for Business: Pricing,* http://www.optimum.com/business/ool/pricing.jsp.

[166] Optimum, *Optimum Voice for Business, Advantages*, http://www.optimum.com/business/ov/advantages.jsp.

[167] Q. Hasan, *et al.*, The Buckingham Research Group, *Cable Goes Commercial: Examining Cable's Next Growth Phase* at 24 (Jan. 11, 2007).

[168] Optimum Lightpath, *Our Network*, http://www.optimumlightpath.com/Interior123.html.

[169] S. Moritz, *Cablevision's Got Fiber*, TheStreet.com (Sept. 20, 2006) (internal quotation marks omitted), http://www.thestreet.com/newsanalysis/techtelecom/10310196.html.

[170] *See* M. Farrell, *Cablevision Revs Up for Business Blitz*, Multichannel News (Sept. 25, 2006), http://www.multichannel.com/article/CA6374465.html.

inbound sales force" as well as an "outbound sales force" and a "door-to-door sales force" to serve business customers, as well as a "separate service call facility to handle customer questions and staffed it 24 hours a day that we can provide the highest quality service."[171] The company claims that it will "charge about half of what Verizon or AT&T charges for the same service with a higher-quality service and a more sophisticated service, too, because it is all IP. And in terms of data capacity, in terms of voice quality, it is equal to or better than anything the incumbents provide and build for the future."[172]

Cablevision Lightpath's business strategy is "to deliver a variety of high quality Metro Ethernet services with bandwidth options ranging from 5 Megabits to 100's of Gigabits."[173] According to Lightpath. "more than 50 percent of hospitals in the New York metropolitan area are now using Optimum Lightpath for high-capacity and high-bandwidth integrated IP data, Internet, and voice solutions."[174] "During the past year, Optimum Lightpath experienced dynamic growth in the healthcare sector with new customer acquisition growing by more than 300 percent."[175] In addition, more than 50 percent of municipalities in Westchester County, N.Y. – "including county and municipal governments as well as more than 3,500 businesses" – are using Cablevision's "advanced communications solutions, delivered over a 100 percent fully fiber optic network."[176] "With more than 32,000 miles of actual fiber connecting over 150 government and 1,500 commercial buildings, Optimum Lightpath's Westchester Telecom Network now providers services to more than 3,500 businesses located within the County's borders, in addition to numerous schools, libraries, healthcare and public safety organizations."[177]

Analysts have noted that "[Cablevision's] Lightpath subsidiary is a well-established CLEC in the Northeast, and . . . has a very fiber-rich network that is directly connected to over 2,000 buildings, and allows it to more aggressively target large enterprise and wholesale customers within its footprint. . . . Therefore, the revenues reported today under the Lightpath unit are almost entirely large enterprise and wholesale in nature."[178]

Wireless Backhaul. Cablevision states that "Lightpath also serves as a "carrier's carrier," providing wholesale transport and access to major long distance and wireless carriers throughout

---

[171] Cablevision/Rutledge MTE Conf. Tr. at 7.

[172] *Id.*

[173] *Optimum Lightpath Expands Executive Team To Support Accelerated Enterprise Growth Strategy*, PR Newswire (July 11, 2007) (statement by Optimum Lightpath Senior Vice President, Network Services Brian Fabiano).

[174] *More Than 50 Percent of Hospitals Throughout New York Metropolitan Area Now Rely on Optimum Lightpath for Advanced Data, Internet and Voice Delivery*, PR Newswire (June 19, 2007).

[175] *Id.*

[176] Optimum Lightpath Press Release, *Westchester County Governments and Businesses Rely on Optimum Lightpath* (June 27, 2007).

[177] *Id.*

[178] Q. Hasan, *et al.*, The Buckingham Research Group, *Cable Goes Commercial: Examining Cable's Next Growth Phase* at 24 (Jan. 11, 2007).

the Tri-State area."[179] "Optimum Lightpath's Service Provider Solutions focus on the specialized needs of the carrier industry, providing service to wireless providers, local exchange carriers, Internet service providers (ISPs), as well as both national and international carriers. Optimum Lightpath uses a growing, fiber optic network that includes a presence in more than 50 hubs in the area's major carrier hotels; because of this, Optimum Lightpath can provide carriers throughout New York, New Jersey, and Connecticut with the transport services they need."[180]

Time Warner Cable. At a cable industry convention in Las Vegas, Time Warner Cable Business Senior Vice President Ken Fitzpatrick remarked that cable has a "strategic opportunity to go after" commercial customers and "hurt" the incumbent telcos.[181] Cable companies could "distract these players and have them redirect their dollars and their focus to compete with the cable industry" in the commercial, rather than video, space.[182]

Broadband. Time Warner Cable offers a "Business Class" service that provides speeds up to 2 Mbps upstream and 15 Mbps downstream over its HFC network, for the "performance and reliability every business needs."[183] One analyst noted that Time Warner Cable's "commercial business currently accounts for $500 million in revenues, with 60% from high-speed data and the remainder, largely from video."[184] Time Warner Cable reported 254,000 commercial high-speed data customers in the first quarter of 2007.[185]

Voice. Time Warner Cable currently offers Business Class Phone service in nine cities.[186] The company "continues to expect to have commercial digital phone available in all of its markets by year-end."[187] The company describes its Business Class Phone as "a crystal-clear, digital voice service developed for small business customers" that provides "unlimited local, in-state and long distance calling within the United States, Canada, Puerto Rico, U.S. Virgin Islands, Guam and Saipan for one flat monthly fee."[188] Businesses that order the triple play of voice, data and video "will also benefit from discounted prices, a single invoice, and single point of contact for all your communications needs."[189]

---

[179] Cisco Systems, *Case Study: Lightpath Responds to Data Demands of Business Customers*, http://www.cisco.com/en/US/netsol/ns579/networking_solutions_customer_profile0900aecd803097bc.html.

[180] Optimum Lightpath, *Industry Solutions: Service Providers*, http://www.optimumlightpath.com/Interior21.html.

[181] *Taking Care of Business*, CT Reports (May 18, 2007).

[182] *Taking Care of Business*, CT Reports (May 18, 2007).

[183] *See* Time Warner Cable Business Class, *Broadband High-Speed Data*, http://www.twcbc.com/nyc/products/data/broadbandhighspeeddata/internetaccess.html.

[184] J. Stein, *et al.*, UBS Investment Research, *The 2007 Cable Show in Las Vegas: Day 1* at 4 (May 8, 2007) (citing Time Warner Cable CFO John Martin).

[185] Time Warner Cable Press Release, *Time Warner Cable Reports 2007 First Quarter Results* (May 2, 2007).

[186] Time Warner Cable Press Release, *Time Warner Cable Reports Second Quarter 2007 Results* (Aug. 1, 2007) (statement by Time Warner Cable President and CEO Glenn Britt).

[187] J. Stein, *et al.*, UBS Investment Research, *The 2007 Cable Show in Las Vegas: Day 1* at 4 (May 8, 2007).

[188] Time Warner Cable, *Business Class Phone*, http://www.twcbc.com/corporate/products/voice/bcp.html.

[189] *Id.*

Fiber. Time Warner Cable Business Class serves enterprise customers with a "Dedicated Internet Access" product that offers "connectivity speeds ranging from 1 Mbps to 10 Gbps" over the company's "high-capacity fiber network" with a "national presence."[190] "Time Warner Cable Business Class offers MEF-certified and compliant Ethernet services in New York, California, Texas, Ohio, North Carolina, and South Carolina.[191]

Wireless Backhaul. Time Warner Cable is offering Ethernet-based wireless backhaul services, and according to an industry source, is "tailoring them to meet the demand of wireless carriers."[192] For example, on industry source reports that Time Warner Cable's wholesale contract in the Houston region "support[s] a wireless network operator."[193] "The core network infrastructure is an MPLS-based network, which makes the Ethernet more efficient and scalable. . . . [Time Warner Cable regional vice president Chuck Sweeney] is bullish about the cable company's future prospects in using pseudowire to support cellular backhaul. 'We've moved out of R&D and field trial and into the deployment and operation phase. . . . We're the first alternative access provider that can truly address the majority of towers.'"[194]

Cox. Cox Business Services states that it is "a facilities-based provider of advanced voice, data and video products and services to more than 100,000 business customers in industries ranging from healthcare and hospitality to government and education. The backbone of our capability as a communications provider is our self-owned and self-maintained nationwide IP network. Thousands of miles of fiber-optic cable make up the Cox system, designed with self-healing, fault-tolerant SONET architecture for enhanced dependability."[195] The company continues "to expand into new markets throughout the nation, and . . . offers a full suite of voice, data and video services for small, medium and large businesses as well as for government and education in more than 36 markets, from California to New England."[196]

Broadband. Cox Business Internet services include a range of tiers over Cox's HFC network with speeds as high as 15.0 Mbps downstream and 2.0 Mbps upstream.[197] The company states that "[w]hen you access the Internet through our hybrid fiber coax (HFC) network, you'll

---

[190] Time Warner Cable Business Class, *Dedicated Internet Access*, http://www.twcbc.com/MediaLibrary/1/1/Content%20Management/Products%20and%20Services/Data/pdf/dia_brochure.pdf.

[191] *Time Warner Cable Among First Service Providers To Earn Ethernet Certification*, Business Wire (June 20, 2007).

[192] *See* M.J. Richter, *Opportunity Knocks at Cable's Door*, Tellabs Emerge (Fall 2006), http://www.tellabs.com/news/reprints/opportunity_fall06-reprint.pdf.

[193] J. Engebretson, *Pseudowire Key to New Cellular Backhaul Options*, Telephony Online (Nov. 2, 2006), http://telephonyonline.com/ethernet/technology/pseudowire_cellular_backhaul_110606/.

[194] *Id.*

[195] Cox Business Services, *About Us*, http://www.coxbusiness.com/aboutus/index.html.

[196] *Id.*

[197] Cox Business Services, *Cox Business Internet: Product Data Sheet*, http://www.coxbusiness.com/pdfs/CBI_Gen-0107.pdf.

receive more robust two-way speeds for faster downloads, connections and ultimately, more efficient and reliable communications for your business."[198]

Voice. Cox Business Services offers a variety of voice services to enterprise customers, including digital telephone, Centrex, digital trunks, and dedicated long distance.[199] According to Cox, with Cox Business Services, "your business can enjoy the savings and convenience of getting your local and long distance service from one company, with one bill and one point of contact."[200] In October 2006, Cox Business Services claimed that its revenue is currently growing at 20 percent per year and that "the RBOCs certainly know we're . . . taking business from them."[201] In May 2007, Cox announced that "Cox's early vision and commitment to telephony is also bringing significant returns to the company via its delivery of commercial telecom services to small- to medium-sized businesses. Cox ended the [first quarter of 2007] with more than 187,000 commercial customers, reflecting 32.2% year-over-year growth."[202]

Fiber. The trade press reports that "Cox is targeting potential commercial customers when it rolls out new plant or upgrades existing plant. In addition to homes passed, it's looking at – and actually building plant to be near – businesses."[203] According to Cox, "Cox Optical Internet[SM] is the reliable and scalable high-speed Internet service built specifically to meet the complex data demands of growing businesses. Backed by our own fiber-based metropolitan networks and nationwide fiber-optic IP backbone, Cox Optical Internet gives your business dedicated access to our network with flexible tiered bandwidth options scalable to OC-12 or higher. . . . Cox Optical Internet has multiple bandwidths available from the popular 1.5 Mb (T-1) to 10 mg to OC-12 or higher. . . . Cox Optical Internet is the service your business can count on for the entire connection, from beginning to end."[204] Cox was one of the entities that purchased fiber IRUs that Verizon was required to divest in connection with the MCI merger; Cox purchased IRUs in the Providence MSA.

Wireless Backhaul. Cox Business Services has been providing fiber-based wireless backhaul to most major wireless carriers for more than a decade.[205] Wireless backhaul services comprise almost 20 percent of Cox Business Service's income for the carrier services segment,

---

[198] Cox Business Services, *Cox Business Internet*, http://www.coxbusiness.com/products/data/businessinternet.html.

[199] Cox Business Services, *Cox Digital Telephone and Voice Mail*, http://www.coxbusiness.com/products/voice/digitaltelephone.html.

[200] *Id.*

[201] J. Duffy, *Cable Companies Intensify Enterprise Service Ambitions*, Network World (Oct. 24, 2006) (quoting Hyman Sukiennik, Vice President and General Manager, Cox Business Services).

[202] Cox News Release, *Cox Answers the Phone and Says "Hello" to Continued Growth* (May 1, 2007).

[203] *Taking Care of Business*, CT Reports (May 18, 2007).

[204] Cox Business Services, *Cox Optical Internet*, http://www.coxbusiness.com/products/data/opticalinternet.html.

[205] *See* K. Brown, *A Towering Opportunity?*, CED Magazine (Sept. 1, 2005), http://www.cedmagazine.com/article.aspx?id=67126; M.J. Richter, *Opportunity Knocks at Cable's Door*, Tellabs Emerge (Fall 2006), http://www.tellabs.com/news/reprints/opportunity_fall06-reprint.pdf.

and the company sees the market as a continuing growth area.[206] According to Cox's chief technologist in Oklahoma City, "[t]he increased demands that new wireless services will place on the backhaul capacity of existing networks and the wireless operators' desire to have access to the reliability and widespread availability of our HFC network creates an attractive business opportunity."[207] A sales engineer added that "[a] fiber solution offers our wireless customers increased control over network powering, which is attractive to them, and the ring architecture provides fail-over protection which can keep calls active in the event of a disruption in ring continuity."[208] Sprint first struck a deal with Cox for wireline backhaul in Oklahoma City, and then expanded it to include wireless backhaul.[209]

Charter. Charter describes its business offerings as "scalable, tailored, and cost-effective broadband communications solutions to business organizations, such as business-to-business Internet access, data networking, video and music entertainment services, and business telephone."[210] According to its COO, the small and medium business market is the "sweet spot" for Charter and the company is "getting traction in that sector."[211] Charter recently reported that it generated commercial revenues of $83 million for the second quarter of 2007, a 9.2 percent increase over the $76 million for the same quarter in 2006.[212] The company reports $300 million in commercial sales annually.[213]

Broadband. Charter's Business Internet Plus service offers downloads speeds of up to 10 Mbps and upload speeds of up to 2 Mbps.[214] The company's "flexible and powerful network" allows it to "offer broadband internet services that fit the needs of any size business."[215]

---

[206] K. Brown, *A Towering Opportunity?*, CED Magazine (Sept. 1, 2005), http://www.cedmagazine.com/article.aspx?id=67126 (citing Comcast Business Services Vice President of Carrier and National accounts Amy Erwin).

[207] Scientific-Atlanta Press Release, *Scientific Atlanta Delivers Prisma IP Platform for Cox Communications Cellular Backhaul Service* (June 21, 2006) (quoting Cox Communications Chief Technologist Brian Fairless).

[208] Scientific-Atlanta Press Release, *Scientific Atlanta Delivers Prisma IP Platform for Cox Communications Cellular Backhaul Service* (June 21, 2006) (quoting Mark Kayser, sales engineer, Cox Business Services for Cox Communications, Pensacola).

[209] K. Brown, *A Towering Opportunity?*, CED Magazine (Sept. 1, 2005), http://www.cedmagazine.com/article.aspx?id=67126.

[210] Charter Communications Press Release, *Charter Reports Second-Quarter Financial and Operating Results* (Aug. 2, 2007).

[211] *Q1 2007 Charter Comm Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 050307ac.766, (May 3, 2007) (statement by Charter Communications EVP & COO Mike Lovett).

[212] Charter Communications Press Release, *Charter Reports Second-Quarter Financial and Operating Results* (Aug. 2, 2007).

[213] *Q1 2007 Charter Comm Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 050307ac.766, (May 3, 2007) (statement by Charter Communications EVP & COO Mike Lovett).

[214] Charter Business, *Charter Business Internet Plus*, http://www.charter-business.com/Charter-Business-Internet-Plus-Cable-Based-High-Speed-Business-Internet.aspx.

[215] Charter Business, *Charter Business High-Speed Internet*, http://www.charter-business.com/Charter-Business-High-Speed-Internet-Cable-based-and-Optical-Fiber-Internet-Access.aspx.

Voice. Charter calls its local and long-distance Business Telephone service "a reliable and cost-effective choice" to give a business "exactly the functionality it requires."[216] "[I]t also saves you time and money when you bundle it with your other Charter Business services. All on one convenient bill."[217] Charter's voice customers have "commented that . . . sound quality is superior to that of their local phone company," because it's "carried digitally, over a state-of-the-art broadband network, instead of through copper wiring."[218] Charter offers its commercial voice service "in a significant portion" of the markets where it offers residential service, and plans to offer commercial service throughout its region by the end of the third quarter of 2007.[219]

Fiber. Charter Business runs "over a state-of-the-art, fiber-based network" that gives Charter the "flexibility to accommodate any industry," including the healthcare, education and government sectors.[220] The Charter Business Fiber Internet offering provides "symmetrical access speeds of up to 1Gbps" over a "single fiber connection."[221] The company also markets Optical Ethernet and Optical Transport services.[222]

Wireless Backhaul. Backhaul represents "a tremendous opportunity," according to Robert Carter, vice president for Charter Business' Southeast Division.[223]

RCN. RCN Business Solutions describes itself as "a leading competitive, facilities based provider of commercial communications services to five of the top ten metropolitan areas in the nation."[224] This includes "over 9500 route miles of fiber optic and coaxial cable at its disposal in five key metropolitan markets: Boston, New York City, Philadelphia, Washington, DC and Chicago,"[225] "complemented with a national IP backbone, as well as both Class Five switch and

---

[216] Charter Business, *Charter Business Telephone*, http://www.charter-business.com/Charter-Business-Telephone-Service-Voice-services-VOIP-telephony-Local-and-Long-Distance.aspx.

[217] *Id.*

[218] Charter Business, *7 Important Facts*, http://www.charter-business.com/Charter-Business-Telephone-Important-Facts.aspx.

[219] *Q1 2007 Charter Comm Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 050307ac.766, (May 3, 2007) (statement by Charter Communications EVP & COO Mike Lovett).

[220] Charter Business, *Solutions By Industry*, http://www.charter-business.com/Charter-Business-Solutions-By-Industry.aspx.

[221] Charter Business, *Charter Business Fiber Internet*, http://www.charter-business.com/Charter-Business-Fiber-Internet-Optical-Class-Services-100-Mbps-1-gigabit.aspx.

[222] Charter Business, *Charter Business Optical Ethernet*, http://www.charter-business.com/Charter-Business-Optical-Ethernet-Dedicated-Bandwidth.aspx; Charter Business, *Charter Business Optical Transport,* http://www.charter-business.com/Charter-Business-Optical-Transport-Secure-private-connection-high-end-SONET-Service-point-to-Point-and-Point-to-Multi-Point.aspx.

[223] *See* J. Baumgartner, *A Global View of the IP Universe*, CED Magazine (Aug. 1, 2005), http://www.cedmagazine.com/article.aspx?id=67428.

[224] RCN Business Solutions, *Our Customers: Wholesale Carrier*, http://www.rcnbusinesssolutions.com/customers/wholesale_carrier/index.php.

[225] RCN Business Solutions, *Our Network*, http://www.rcnbusinesssolutions.com/network/index.php.

video headend in every market."[226] In June 2007, RCN announced it would acquire NEON Communications, a "facilities-based wholesale communications provider that operates a "densely built fiber optic network" and "supplies high bandwidth fiber optic capacity and comprehensive end-to-end telecom services to approximately 120 carrier and enterprise customers."[227] RCN was one of the entities that purchased fiber IRUs that Verizon was required to divest in connection with the MCI merger; RCN purchased IRUs in the Portland, ME, Boston-Worchester, and Richmond MSAs.

Broadband. RCN recently launched new product offerings and rate plans "to meet the needs of the small to medium-sized business market."[228] According to RCN Business Services' Vice President and General Manager John Baker, "RCN has been focused on small to medium businesses for some time, but as both the customer base and demand continue to grow, it has become even more important to allocate dedicated resources to support the business."[229] "Internet service enhancements include a recently launched 5Mbps downstream/800 Kbps upstream Cable Modem that is priced below most competitive DSL providers. In addition, RCN upgraded its legacy 10Mbps Cable Modem with an upstream speed boost from 800Kbps to 2Mbps. These enhancements are in addition to RCN's 20Mbps downstream/2Mbps upstream Cable Modem."[230] "RCN Business Solutions broadband services include fulfilling customer needs for large scale deployment of cable and cable modem services."[231]

Voice. RCN offers a range of voice services to business customers, including "Switched, 800 number service, audio conferencing, [and] private lines."[232] This "fiber rich owned and maintained national network" also allows RCN to "deliver local, long distance and international calling services at extremely competitive rates."[233] RCN offers small businesses "unlimited local, regional, and long distance calling" for $38/month and unlimited local for just $21/month.[234] RCN states that it "has the right solution for your business."[235]

Fiber. The RCN Business Solutions network "accesses over 800 customer "on-net" buildings and passes 20,000 additional "off net" buildings that are within 500 feet of the network. Access to your premise, if not "on-net" can be achieved with a customized fiber

---

[226] RCN Business Solutions, *Our Customers: Wholesale Carrier*, http://www.rcnbusinesssolutions.com/customers/wholesale_carrier/index.php.

[227] RCN Press Release, *RCN To Acquire NEO Communications Group for Up To $5.25 Per Share* (June 25, 2007).

[228] RCN Press Release, *RCN Kicks Off New Small to Medium-Sized Business Marketing Program* (June 5, 2007).

[229] *Id.*

[230] *Id.*

[231] RCN Business Solutions, *Services: Broadband Services*, http://www.rcnbusinesssolutions.com/services/broadband_services/index.php.

[232] RCN Business Solutions, *About Us*, http://www.rcnbusinesssolutions.com/about/index.php.

[233] RCN Business Solutions, *Services: Voice*, http://www.rcnbusinesssolutions.com/services/voice/index.php.

[234] RCN, *Small Business: Phone Services*, http://www.rcn.com/smallbusiness/phone.php.

[235] *Id.*

construction project."[236] RCN offers Ethernet Private Line, Virtual Private Line, and LAN services in the New York, Chicago, Boston, and Washington, DC markets.[237] RCN claims "considerable expertise in servicing large enterprise customers."[238] According to analysts, RCN's commercial revenue "is predominantly biased towards value-add services such as transport (67%), leased fiber (14%) and collocation (6%)."[239]

Wireless Backhaul. RCN Business Solutions entered into an agreement to "provide First Avenue the fiber links necessary to deliver carrier-grade backhaul service to its fixed line and mobile carrier customers" in exchange for providing RCN "wireless extensions of their fiber network at up to 155 Mbps."[240] "RCN executive vice president and CTO Timothy Dunne said of the relationship, 'RCN Business Solutions has unparalleled fiber optic density, metropolitan business access, and advanced network technology with an enhanced product line delivered over a fast and powerful platform suited for telecommunications carriers and enterprise broadband applications.'"[241]

---

[236] RCN Business Solutions, *Our Network: Layer Diagrams*, http://www.rcnbusinesssolutions.com/network/layer_diagrams/index.php.

[237] RCN Press Release, *RCN Business Solutions Among the Very First To Be Awarded Metro Ethernet Forum (MEF) 14 Certification* (June 21, 2007).

[238] Q. Hasan, *et al.*, The Buckingham Research Group, *Cable Goes Commercial: Examining Cable's Next Growth Phase* at 25 (Jan. 11, 2007).

[239] *Id.*

[240] RCN Press Release, *First Avenue Networks and RCN Corporation Partner To Tap Metropolitan Wireless Fiber Extension Market; Business Relationship To Enhance Respective Broadband Wireless/Cable Service Offerings* (Nov. 22, 2005).

[241] *Id.*

III. FIXED WIRELESS PROVIDERS

FiberTower. FiberTower (which merged with First Avenue Networks in August 2006) provides "mission and business critical transport solutions, including backhaul and premise access services, to major wireless carriers, enterprises and government agencies."[242] The company holds spectrum principally in the 24 GHz and 39 GHz bands;[243] its 39 GHz footprint covers 99% of the United States, while its 24 GHz footprint covers the top 77 metro areas.[244] FiberTower also uses spectrum in the 18 and 23 GHz bands to serve "suburban and rural markets."[245] As of the end of first-quarter 2007, FiberTower reported 1,583 installed sites and 2,206 billing customer locations, with an average of 5.26 T1s per installed site; and a total of 8,323 T1-equivalents in service.[246]

FiberTower considers itself to be "the leading alternative carrier for wireless backhaul."[247] FiberTower "had an average of 3.7 mobile carriers as customers per existing market," and "[t]he Company currently counts six of the top eight wireless carriers as customers."[248] FiberTower "delivers backhaul services to [these] leading wireless carriers in 12 major U.S. markets."[249]

Both Verizon Business and Qwest selected FiberTower as a prime fixed-wireless services partner for their respective Networx Universal awards, which were granted by the U.S. General Services Administration on March 29, 2007. "FiberTower will operate under a fixed-wireless subcontract agreement with each carrier as they compete for telecommunications business from government agencies."[250]

On August 1, 2007, FiberTower announced an agreement with Sprint to provide backhaul services in seven of Sprint's initial markets where it is building its WiMAX network.[251] Sprint states that it "look[s] forward to dramatically expanding this relationship going forward."[252]

Tower Cloud. Tower Cloud states that it is "the Wireless industry's most reliable and advanced backhaul provider," offering "end-to-end service . . . for customers seeking alternative

---

[242] FiberTower, *About FiberTower*, http://www.fibertower.com/corp/company.shtml.

[243] FiberTower Press Release, *First Avenue Networks Completes Merger, Changes Name to FiberTower Corporation* (Aug. 30, 2006).

[244] FiberTower, *Spectrum Assets*, http://www.fibertower.com/corp/company-spectrum-assets.shtml.

[245] *Id.*

[246] FiberTower Press Release, *FiberTower Reports First Quarter 2007 Results* (May 8, 2007).

[247] *Id.*

[248] *Id.*

[249] FiberTower, *About FiberTower*, http://www.fibertower.com/corp/company.shtml.

[250] FiberTower Press Release, *FiberTower Reports First Quarter 2007 Results* (May 8, 2007).

[251] *See* FiberTower Press Release, *Fiber Tower Announces Backhaul Agreement with Sprint Nextel for WiMax Buildout* (Aug. 1, 2007).

[252] *Id.* (quoting Barry West, CTO and President of Sprint Nextel's Mobile Broadband division).

solutions with high reliability, unlimited bandwidth and fast deployment."[253] It "[u]tilizes fiber, microwave, or a combination that promises 99.999% availability and complete redundancy" that "[e]nables 100% ILEC bypass."[254] The company claims that its "hybrid fiber/microwave ('HFM') backhaul architecture allows us to deliver broadband backhaul services to more tower sites than could be economically reached with either microwave or fiber solutions alone."[255] Towercloud promises "T-1 provisioning in 10 days or less for on-net sites."[256] Tower Cloud is "targeting the entire Southeast market and will expand beyond that over time."[257]

Towerstream. Towerstream claims to be "[o]ne of the leading fixed-wireless broadband providers in the US."[258] It states that, "[s]ince we own our entire network, we are not beholden to the phone company. This means your business gets much lower costs and fast installation times."[259] Towerstream is able "deliver high availability wireless broadband to area businesses with 99.999% reliability for a fraction of traditional carrier costs."[260] Towerstream offers service for small businesses (T1 to 5 Mbps), medium-sized businesses (10-45 Mbps), and enterprises (100-1,000 Mbps).[261] Customers can "increase their bandwidth at any time in 1.0 Mb increments usually without additional installation or equipment charges."[262] For large enterprise customers, Towerstream states that it offers "industry-shattering prices on links from 100 to 1000 Mbps. We guarantee this with an industry-leading Service Level Agreement (SLA) that guarantees uptime, latency and throughput."[263] According to the company, "Fortune 500 Companies, Cities, Hospitals and Universities are using Towerstream's Super high-speed Internet Connections."[264]

Conterra Ultra Broadband. Conterra Ultra Broadband "provides microwave and fiber based, high-speed broadband connections and wide area networks to education, healthcare, business, government, and carrier customers primarily in under served communities."[265] Conterra's ethernet and backhaul transport services are offered at speeds from 10 Mbps to 1 Gbps "and extend within and beyond traditional network end-points to support mission critical transmission of data, voice and video simultaneously in a converged environment."[266] Conterra

---

[253] Tower Cloud, *Home*, http://www.towercloud.com/.

[254] Tower Cloud, *Why Tower Cloud*, http://www.towercloud.com/why.html.

[255] Tower Cloud, *Network Solution*, http://www.towercloud.com/network.html.

[256] Tower Cloud, *Home*, http://www.towercloud.com/.

[257] J. Meinhardt, *Signal to St. Pete: High-Paying Jobs Transmitted Here*, Tampa Bay Bus. J. (Sept. 29, 2006), http://www.tampabay.org/press.asp?printer=1&rls_id=1488 (quoting Tower Cloud CEO Ronald Mudry).

[258] Towerstream, *Overview*, http://www.towerstream.com/content.asp?overview.

[259] *Id.*

[260] Towerstream Press Release, *Towerstream Launches High Availability Fixed Wireless Broadband Solution in Seattle; Continuing Expansion to Largest U.S. Cities* (Jan. 30, 2007).

[261] Towerstream, *What We Offer*, http://www.towerstream.com/content.asp?whatweoffer.

[262] Towerstream, *Overview*, http://www.towerstream.com/content.asp?overview.

[263] Towerstream, *Enterprise*, http://www.towerstream.com/content.asp?enterprise.

[264] *Id.*

[265] Conterra Ultra Broadband, *Welcome to Conterra Ultra Broadband*, http://www.conterra.com/.

[266] *Id.*

offers "carrier class, alternative access networks" that "currently deliver more than 22,000 'T-1 equivalents' of bandwidth spanning thousands of path miles from coast-to-coast."[267] It provides "licensed microwave last and middle mile connections" to "Local Exchange Carriers, Competitive Local Exchange Carriers, Internet Service Providers, cellular companies and organizations," and "can now offer traditional TDM, IP Backhaul and Ethernet services to even the most remote customers, regardless of existing plant and facility."[268]

Covad Wireless. Covad Wireless offers "business-grade fixed broadband wireless services" in the San Francisco Bay Area, Los Angeles, Orange County, Las Vegas, and Chicago.[269] Its service area "encompasses over 220 cities across more than 3,000 square miles and covers more than 50,000 small and medium-sized enterprises (SMEs) in population centers that include more than 25 million households."[270] Covad "offer[s] speeds of up to 9.0 megabits per second downstream and upstream using unlicensed spectrum and up to 100 megabits per second downstream and upstream using licensed spectrum, including spectrum leased from holders of FCC-auctioned spectrum."[271] This enables Covad to "meet the needs of larger businesses," in addition to serving small and medium businesses.[272] Covad Chairman and CEO Charles Hoffman as stated that its fixed wireless assets "provides an alternative to the last-mile copper for delivering data and voice services to business customers."[273]

Nextlink (XO). XO launched its Nextlink subsidiary to take advantage of wireless technologies that "will allow competitive carriers to bypass the ILEC and market their services to customers directly through high capacity, wireless connections."[274] Nextlink's fixed wireless spectrum footprint in the 28-31 GHz bands covers "95% of the population in 75 of the top markets in the United States."[275] Nextlink claims to be "the leading provider of broadband wireless services to fixed and mobile communications providers, businesses and government agencies."[276] Nextlink's services support "next-generation mobile and wireline voice, data and video applications."[277] Nextlink provides "a cost effective option to constructing fiber."[278] Broadband wireless technology allows the company to "fill a critical gap for businesses that require higher-speed network connections but lack direct access to fiber optic networks at their

---

[267] *Id.*

[268] Conterra Ultra Broadband, *Carrier*, http://www.conterra.com/products/carrier.php.

[269] Covad Communications Group Inc., Form 10-K at 5 (SEC filed Feb. 28, 2007).

[270] Covad Wireless, *About Covad Wireless,* http://www.covadwireless.com/about.html.

[271] Covad Communications Group Inc., Form 10-K at 5 (SEC filed Feb. 28, 2007).

[272] Covad Press Release, *Covad Expanding Broadband Wireless Network* (Oct. 11, 2006).

[273] Covad Press Release, *Covad Signs Agreement To Acquire NextWeb To Accelerate Entry into Wireless Broadband* (Oct. 5, 2005).

[274] XO Communications Inc., Form 10-K at 4 (SEC filed Mar. 16, 2007).

[275] Nextlink, *About Nextlink,* http://www.nextlink.com/about_nextlink.htm.

[276] Nextlink, *Reseller Program,* http://www.nextlink.com/pdf/Reseller_Overview.pdf.

[277] Nextlink, *About Nextlink,* http://www.nextlink.com/about_nextlink.htm.

[278] XO Communications Inc., Form 10-K at 16 (SEC filed Mar. 16, 2007).

locations or lack competing alternatives for communications services."[279] The company can deliver "high-speed network connections at speeds ranging from 10 Mbps to 155 Mbps (OC-3) to support a wide range of communications services, including dedicated Internet access, metro Ethernet, and voice over IP."[280]

Nextlink provides extensive wholesale services. Its CEO, Bob Beran, states that its "strategy is to be a carriers' carrier – we have a wholesale market strategy,'. . . We will sell direct to wireless carriers for backhaul but we intend to use channel partners to reach the enterprise.'"[281] "The Nextlink Reseller Program allows partners to package carrier-grade, high-speed wireless alternative access with their own data services, private line and other managed network services. Reseller Program partners can take advantage of Nextlink's licensed spectrum in 75 major markets to reach more customers than ever before-faster and less expensively than most copper- or fiber-based solutions."[282]

Sprint. Sprint claims that it is "investing in its fourth-generation ('4G') nationwide broadband mobile network, using its 2.5 GHz spectrum holdings and the mobile WiMAX technology standard," and that, "by 2008, Sprint Nextel expects its WiMAX network to be capable of serving as many as 100 million people."[283] Sprint has recently announced that it will partner with Clearwire in deploying this network nationwide. The companies ultimately plan to reach 300 million pops.[284] Sprint's CEO said "[t]his arrangement will result in stronger competition in the rapidly growing market for broadband services, and will provide consumers, national enterprises and other businesses, educators and public safety agencies greater choice and faster access to a revolutionary mobile broadband technology."[285] Sprint has announced it is investing up to $3 billion to deploy this network.[286] Sprint plans to launch service in

---

[279] XO Communications Press Release, *XO Communications Expands Broadband Wireless Coverage to 36 Markets* (July 11, 2007).

[280] *Id.*

[281] C. Wilson, *Covad To Offer Wireless Access Through NextLink,* Telephony Online (June 13, 2006), http://telephonyonline.com/wireless/news/covad_nextlink_access_061306/.

[282] Nextlink, *Reseller Partner Program,* http://www.nextlink.com/resellers.htm.

[283] Sprint Nextel Corporation Comments at 8, *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45 (FCC filed May 16, 2007).

[284] *See* Sprint Nextel News Release, *Sprint Nextel and Clearwire To Partner To Accelerate and Expand the Deployment of the First Nationwide Mobile Broadband Network Using WiMAX Technology* (July 19, 2007).

[285] *Id.*

[286] *See* A. Sharma, *et al., Sprint To Spend Up to $3 Billion To Build Network Using Wimax – New Wireless-System Plan Shows Belief in Demand for Mobile Internet Services,* Wall St. J. at B2 (Aug. 9, 2006); A. Mohammed, *Sprint Nextel To Build $2.5 Billion Wireless Network*, Wash. Post at D04 (Aug. 9, 2006); J. Markoff, *et al., Sprint Will Build an Intel-Backed Network*, N.Y. Times at 7 (Aug. 9, 2006). *See also Q1 2007 Sprint Nextel Corporation Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 050207aq.751 (May 2, 2007) (Sprint Nextel President and CEO Gary Forsee: "We also continue to make solid progress toward the deployment of our WiMAX broadband network. We are encouraged by the development of the WiMAX ecosystem . . . and we are on track to launch WiMAX in Washington D.C. and Chicago in late 2007 and to be in more than 20 markets by the end of 2008.").

Washington, DC and Chicago in late 2007, and expects to be in more than 20 markets by the end of 2008.[287] Sprint expects initial speeds of 2-4 Mbps, rising to 10 Mbps over time.[288]

Clearwire. Clearwire "constructs and operates next generation portable wireless broadband networks and services," which "currently blanket[] 38 U.S. markets covering approximately 9.1 million people in more than 400 municipalities," with this total expected to rise to 16-18 million by the end of 2007.[289] Clearwire's holding of 2.5 GHz spectrum "includes approximately 14.0 billion MHz POPs of spectrum in the U.S., covering an estimated 223 million people," with enough spectrum in individual markets to "commercially launch its services over spectrum covering an estimated 117 million people in the United States."[290] Clearwire serves 258,000 customers as of March 2007.[291] Clearwire offers business customers with downstream speeds up to 1.5 Mbps.[292] In 2006, Clearwire secured "more than one billion dollars in funding from leading hardware manufacturers Intel, Motorola and Bell Canada to finance its wireless network," and in March 2007, it completed an IPO that raised an additional $557 million in proceeds.[293] Analysts recently noted that "[t]he service is already beginning to make a splash and in 1Q Clearwire recorded net additions of 52,000, reflecting growth of 18% sequentially and 41% yoy, powered primarily by domestic additions. . . . Gartner Dataquest estimated in November 2006 that the number of WiMAX subscribers will reach 21 million in the US."[294] Clearwire recently partnered with Sprint to deploy a national WiMAX network that will ultimately reach 300 million people.[295]

Airband. Airband claims to be "the largest fixed wireless broadband provider for businesses in the United States."[296] The company "bypasses the local phone company to provide faster provisioning intervals, immediate scalability and complete redundancy for its customers."[297] Airband offers "dedicated bandwidth up to GigE speeds," and reports that "3,500

---

[287] T.J. Lee, *et al.*, JP Morgan, *Sprint Nextel* at 6 (May 3, 2007).

[288] *See* S. Flannery, *et al.*, Morgan Stanley, *As Broadband Matures Speeds (and CapEx) Rise* at 6 (Apr. 23, 2007).

[289] Clearwire Comments at 2-4 & n.10, *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45 (FCC filed May 16, 2007) ("*Clearwire Broadband NOI Comments*"); *see also* Clearwire, *Clearwire Facts*, http://www.clearwire.com/company/facts.php (Clearwire operates in 39 markets in 13 states (Alaska, California, Florida, Hawaii, Idaho, Minnesota, Nevada, North Carolina, Oregon, Texas, Virginia, Washington, and Wisconsin).

[290] *Clearwire Broadband NOI Comments* at 4-5.

[291] Clearwire, *Clearwire Facts*, http://www.clearwire.com/company/facts.php.

[292] Clearwire, *Service Plans: Business Plans*, http://www.clearwire.com/wireless-broadband/getstarted_biz.php.

[293] *Clearwire Broadband NOI Comments* at 6.

[294] S. Flannery *et al.*, Morgan Stanley, *Cable & Telecom: VoIP Success Driving Telco On-Net and Off-Net Video* (July 23, 2007).

[295] *See* Clearwire News Release, *Sprint Nextel and Clearwire To Partner To Accelerate and Expand the Deployment of the First Nationwide Mobile Broadband Network Using WiMAX Technology* (July 19, 2007).

[296] Airband Communications Press Release, *Airband Secures $12.5 Million in Funding To Accelerate Growth in Existing Markets, Expand Product Set* (May 29, 2007).

[297] *Id.*

businesses already count on Airband for their broadband service."[298] Airband claims its rates "are extremely competitive and typically 20-30% lower than other broadband providers."[299] According to a regional sales manager, "Our sweet spot is delivering three to 20 megabits of bandwidth."[300] The company recently secured $12.5 million in venture capital funding.[301] In May 2006, Airband Communications acquired the fixed wireless business of WindChannel Communications, which had operations in major North Carolina markets.[302]

ISG. ISG offers "broadband wireless connectivity to West Michigan businesses."[303] According to the company, its "Leapfrog Broadband Internet access is a business-class solution, as reliable as fiber – without the hassles and delays. Installation is fast, often within five days, and professionally engineered to guarantee your access needs are met."[304] ISG offers access speeds up to 45 Mbps "with quality equivalent to fiber."[305]

Rioplex. Rioplex Broadband is "the first to offer High Speed Non-Line of Sight Internet Access to the Rio Grande Valley and [its] surrounding areas."[306] "Stretching from Roma to South Padre Island, our coverage area is the largest coverage area of any High Speed Internet service provider in South Texas. Our unique ability to provide high-speed Data, Voice, and Video to over 5,000 square miles make us the ultimate solution to all of your Internet Service needs, whether it be in your home, office, on your drilling rig, or anywhere in between!"[307]

US Wireless Online. US Wireless Online states that it "owns and operates one of the nation's largest wireless Internet broadband networks with significant coverage areas in Alabama, Florida, Indiana, Kentucky, Mississippi and Pennsylvania,"[308] using spectrum in the 2.4 and 5.8 GHz bands.[309] The company offers wireless broadband Internet access "for commercial, multi-tenant residential and government users, priced in multiple tiers from 512kbps to 10mbps."[310]

---

[298] *Id.*

[299] Airband, *Data Services*, http://www.airband.com/docs/data_services.pdf.

[300] K. Duff, *Safety Net: Fixed Wireless Offers Peace of Mind Other Telecoms Can't*, Phoenix Bus. J. (Dec. 1, 2006), http://www.bizjournals.com/phoenix/stories/2006/12/04/focus1.html (quoting Airband regional sales manager Jason Cate).

[301] Airband Communications Press Release, *Airband Secures $12.5 Million in Funding To Accelerate Growth in Existing Markets, Expand Product Set* (May 29, 2007).

[302] Airband Communications Press Release, *Airband Acquires Fixed Wireless Business from WindChannel Communications* (May 15, 2006).

[303] ISG, *Wireless Broadband,* http://www.goisg.com/infrastructure/wireless/default.asp.

[304] *Id.*

[305] *Id.*

[306] Rioplex Broadband, *About Us,* http://www.rioplexwireless.com/web/about.php.

[307] *Id.*

[308] US Wireless Online, *About Us,* http://www.uswo.net/aboutus.htm.

[309] US Wireless Online, *Technology,* http://www.uswo.net/technology.htm.

[310] US Wireless Online, *About Us,* http://www.uswo.net/aboutus.htm.

One Ring Networks. One Ring Networks states that it "operates one of the largest hybrid fiber-fixed wireless networks in the United States" and offers "end-to-end telecommunications and networking services without relying on other companies' last mile."[311] The company utilizes 3.65-3.7 GHz spectrum "to offer services to businesses of all sizes that were previously only affordable by large enterprises."[312] One Ring Networks' "extensive, high-speed fixed wireless network []offers both carrier and physical redundancy for fiber and multiple T connections," at speeds of 1.5 to 10 Mbps.[313] One Ring Networks "covers the entire Metropolitan Atlanta area."[314] For carrier customers, One Ring Networks "can access a large number of commercial real estate structures that lie off of fiber networks and in some instances outside of ILEC coverage areas. One Ring can bring speeds of up to 150 Mbps to your hard to reach customers."[315]

Alpheus. Alpheus is a "Texas focused" company serving Houston, Dallas, Austin, San Antonio, Fort Worth and Corpus Christi.[316] The company states that it is "the ideal terrestrial partner for Texas wireless carriers. Our core product offerings include cell site backhaul and aggregation as well as Hubbed and Point-to-Point Service, at bandwidth speeds ranging from DS-1 to OC-192, Gigabit Ethernet and Managed Wavelengths. At Alpheus, our goal is to provide the highest-quality bandwidth transport services, maintain a world-class network, and provide extraordinary customer support."[317] Alpheus operates high-bandwidth wireless hubs providing point-to-point broadband wireless services, utilizing licensed and unlicensed wireless spectrum "to offer Alpheus customers fast, reliable and scalable broadband wireless services as either primary or redundant links."[318] According to the company's Chief Operating Officer, "Service providers, businesses, and the public sector now have a viable broadband wireless alternative to meet their mission-critical, high bandwidth communications requirements."[319] Alpheus states that its "Waves" service "is the ideal solution for companies who need large amounts of bandwidth and want a cost-effective alternative to building, lighting, and managing dark fiber. Our 2.5 Gbps managed waves are well-suited for customers who need reliable and scalable high-capacity transport and prefer to manage their own bandwidth."[320]

---

[311] One Ring Networks Press Release, *One Ring Networks Praises FCC for 3650 MHz Band Decision* (June 18, 2007).

[312] *Id.*

[313] One Ring Networks, *Wireless Redundancy*, http://www.oneringnetworks.com/wireless.php.

[314] One Ring Networks, *Our Technology*, http://www.oneringnetworks.com/technology.php.

[315] One Ring Networks, *Carrier Services*, http://www.oneringnetworks.com/assets/Wholesale%20Flyer.pdf.

[316] Alpheus Communications, *Alpheus Communications*, http://www.alpheuscommunications.com/.

[317] Alpheus Communications, *Alpheus Wireless Carrier Solutions,* http://www.alpheuscommunications.com/solutions.shtm.

[318] Alpheus Communications, *Alpheus Announces Expansion of Metro Wireless Transport Capabilities* (Apr. 26, 2007).

[319] Alpheus Communications, *Alpheus Announces Expansion of Metro Wireless Transport Capabilities* (Apr. 26, 2007) (quoting Alpheus Chief Operating Officer Francisco Maella).

[320] Alpheus Communications, *Alpheus Bandwidth Products – Waves,* http://www.alpheuscommunications.com/managed_wavelengths.shtm.

Renaissance Networking, Inc. Renaissance Networking, Inc. ("RNI") offers broadband Internet access in Tempe and the Phoenix metropolitan area.[321] The company's Metropolitan Area Network uses 2.4 GHz spectrum "to offer last mile connectivity at price/performance combinations that were previously unheard of," including tiers of service with performance "equivalent to T1, E1, T3, DS-3, etc."[322] According to the RNI Vice President Matt Clark, "On average, a customer moving from T1 to RNI is saving $200 a month. . . . On the other hand, a business that wants to continue spending the same amount of money they spent on a T1 can get about six times the amount of bandwidth with RNI. Fixed wireless is very economical, as well as reliable."[323]

AirTap. AirTap Communications states that it is "building the highest capacity, licensed WiMAX networks in the nation. Using innovative next generation wireless broadband technologies, AirTap Communications' MetroTap WiMAX networks carry fiber equivalent capacity to serve the broadband IP demands of mid to large sized establishments in the Nation's top metropolitan areas."[324] AirTap will use "diverse multi-carrier fiber-optic routes located within a fully redundant facility, forming the root of its network access" and then use "its proprietary FCC licensed multipoint system to create its own local broadband distribution network in the sky, extending the power of its root network connectivity to all of its subscribers."[325] AirTap states that its MetroTap network "provides unprecedented non-line-of-site, near line-of-site, and optical line-of-site wireless connectivity to over 6,000 square miles of coverage area. Each network subscriber will have the option of AirTap's WiMAX2 service that provides better than 99.999% network availability and broadband burst speeds up to 36 Mbps per client."[326] This will enable the company to "quickly and affordably deliver secure multi-megabit IP connections to the vast majority of businesses throughout an AirTap deployed city."[327] AirTap "has successfully designed, deployed, marketed and operated dozens of fixed wireless networks throughout the Southeast United States," and is currently "working closely with strategic industry partners and plans to roll out its premier MetroTap network Q3 of 2007."[328]

---

[321] Renaissance Networking, Inc., *PriorityIP Broadband Internet,* http://www.rni.net/connections_wireless.html.

[322] *Id.*

[323] K. Duff, *Safety Net: Fixed Wireless Offers Peace of Mind Other Telecoms Can't*, Phoenix Bus. J. (Dec. 1, 2006), http://www.bizjournals.com/phoenix/stories/2006/12/04/focus1.html.

[324] AirTap, *Welcome!,* http://www.airtap.net/.

[325] AirTap, *Technology,* http://www.airtap.net/technology.html.

[326] *Id.*

[327] AirTap, *Products & Services,* http://www.airtap.net/product.html.

[328] AirTap, *About Us,* http://www.airtap.net/about.html.

IV. SYSTEMS INTEGRATORS

IBM Global Services. IBM Global Services is the leading IT and consulting services provider in the world and has over 355,000 employees in 170 countries.[329] The company is a key player in the provision of converged voice and data networks for large businesses and governments. IBM recently signed "a $1.4 billion, seven-year global strategic outsourcing agreement with AstraZeneca" for which IBM will provide "a single global technical infrastructure, managing IT services for AstraZeneca across its global organization. This includes server and storage hosting, . . . network and communications services, including e-mail, and computer operations support."[330] In March 2007, the City of Brownsville, Tex. hired IBM "to help design an enterprise modernization project, providing city departments with a wireless Internet infrastructure and residents with an improved access to city services."[331]

Electronic Data Systems Corp. Electronic Data Systems Corp. (EDS) is the second largest provider of information technology outsourcing in the world.[332] In the telecommunications space, EDS designs, builds, deploys and manages seamless network solutions that integrate voice, video and data; improves the effectiveness of data exchange in the supply chain; and delivers secure connectivity and smooth operations over both wired and wireless platforms. Recently, EDS partnered with AT&T Government Services as a subcontractor to provide IT services to federal agencies under the U.S. General Services Administration's Networx Enterprise contract: "EDS will work with AT&T to compete for task orders for telecommunications, networking and related services."[333] EDS has won a number of significant contracts in the past in which companies have agreed to have EDS create and manage their integrated converged telecommunications networks;[334] in the second quarter of 2007, EDS "signed six deals . . . with contract values greater than $100 million with clients in the communications, government, financial services and consumer goods industries."[335]

Accenture. Accenture offers a range of management consulting, technology and outsourcing services to an international clientele that includes 91 of the Fortune Global 100 and two-thirds of the Fortune Global 500.[336] The company's Communications and High Tech arm

---

[329] IBM Corp., *2006 Annual Report* at 4-5, 10.

[330] IBM Corp. Press Release, *IBM Signs $1.4 Billion Global Strategic Outsourcing Agreement with AstraZeneca* (July 16, 2007).

[331] IBM Corp. Press Release, *Brownsville Goes Blue: IBM To Help Design Citywide Technology Modernization Project* (Mar. 1, 2007).

[332] Electronic Data Systems Corp., Form 10-K (SEC filed Mar. 1, 2007).

[333] EDS News Release, *EDS To Serve As Subcontractor with AT&T To Provide IT Services to Federal Agencies under GSA Networx Enterprise Contract* (June 13, 2007).

[334] *See, e.g.*, EDS Press Release, *Air Liquide Awards EDS Global Telecommunications Management Contract* (Jan. 16, 2003) (announcing that French company Air Liquide had awarded contract to EDS to create for the company a single converged network); EDS Press Release, *Belk Selects EDS To Manage Its Telecommunications Environment* (Nov. 19, 2002) (announcing contract with Belk, the largest privately held department store in the U.S.).

[335] EDS Press Release, *EDS Reports 2007 Second Quarter Results* (Aug. 1, 2007).

[336] Accenture, *Company Description*, http://www.accenture.com/Global/About_Accenture/Company_Overview/CompanyDescription.htm.

posted $1.201 billion in net revenue for the third fiscal quarter in 2007, which represents an 11 percent increase over the same quarter in 2006.[337] Accenture recently announced its intentions to invest $250 million over the next three years to expand its technology consulting capabilities.[338] According to the company, "[t]he investment is designed to address a strong increase in demand from clients for services and advice from technology-platform-independent services providers."[339] In 2006, Accenture was named the worldwide systems integration leader by IDC.[340] In 2004, Accenture began offering managed messaging services to large businesses and governments jointly with AT&T.[341]

Northrop Grumman. Northrop Grumman, historically known as an aircraft manufacturer, now generates one-third of its $30.1 billion annual revenue from its information and services group.[342] While the majority of its annual revenue came from electronic systems, integrated systems, mission systems, and ships, over 13 percent of Northrop Grumman's revenue came from its Information Technology sector.[343] Since April 2007, the company has been serving as a subcontractor to AT&T Government Solutions on the Networx Universal contract which is potentially worth $20 billion over ten years, to help AT&T compete for "task orders for telecommunications, networking and related services."[344] In September 2006, Northrop Grumman won a $500 million contract to upgrade the broadband public-safety network in New York City.[345] Northrop Grumman will "enhance the city's existing mobile wireless communications network with high-speed data and video capabilities, and deploy several new, advanced wireless applications to support first responders and transportation personnel."[346] The president of Northrop Grumman's IT sector, James O'Neill, stated, "Our team has more than 50 years of experience designing, integrating, and operating some of the world's most complex and secure communications systems."[347]

---

[337] Accenture News Release, *Accenture Reports Strong Third-Quarter Fiscal 2007 Financial Results* (June 28, 2007).

[338] Accenture News Release, *Accenture to Invest $250 Million to Expand Technology Consulting Capabilities to Help Clients Align IT Strategy with Business Strategy* (June 18, 2007).

[339] *Id.*

[340] Accenture News Release, *Leading Market Research Firm Identifies Accenture As Worldwide Systems Integration Leader* (Nov. 15, 2006).

[341] AT&T News Release, *Accenture and AT&T Team To Provide Managed Messaging Solutions to Businesses and Government Agencies* (May 24, 2004) ("The new service combines the strengths of two of the world's largest and most experienced technology service providers, bringing together Accenture's technology integration capabilities with AT&T's hosting and networking integration expertise.").

[342] Northrop Grumman, *Frequently Asked Questions*, http://www.northropgrumman.com/about_us/faq.html.

[343] *Id.*

[344] Northrop Grumman News Release, *Northrop Grumman Brings Systems Integration Expertise to Networx Contract* (Apr. 4, 2007).

[345] Northrop Grumman Press Release, *Northrop Grumman Wins $500 Million New York City Broadband Mobile Wireless Contract* (Sept. 12, 2006).

[346] *Id.*

[347] *Id.*

Lockheed Martin. Lockheed Martin is the largest provider of IT services, systems integration and training for the U.S. Government.[348] Lockheed states that it "provide[s] program management, business process management and consulting, complex systems development and maintenance, complete lifecycle software support, information assurance, managed services and enterprise solutions" to a wide variety of government entities.[349] In January 2006, a Lockheed-led team was awarded a $2 billion contract to create a new Air Force communications network.[350] Specifically, the network will "provide a new level of high-bandwidth, secure, global communications to transform the speed of command and provide a vital information link to deployed mobile forces."[351]

Capgemini. Capgemini is one of the largest management and IT consulting firms in the world, and a leader in seamlessly integrating multimedia solutions into mobile operators' processes and IT infrastructure. In 2003, Capgemini teamed up with AT&T Wireless, Deloitte Consulting, Fujitsu Consulting, and Hewlett Packard to form a wireless systems integrator program, which offers business customers a complete mobile solution, from hardware and application, to strategy, integration and outsourcing.[352]

General Dynamics. General Dynamics serves enterprises as well as the federal government, its primary customer.[353] The company recently won a number of large government communications contracts, including the implementation of a VoIP solution for the Pentagon, and nationwide, integrated wireless communications services to support federal law enforcement, homeland security and first responder operations.[354] Verizon Business has partnered with

---

[348] Lockheed Martin, *About Us,* http://www.lockheedmartin.com/wms/findPage.do?dsp=fec&ci=4&sc=400.

[349] Lockheed Martin, *2006 Annual Report* at 14.

[350] Lockheed Martin Press Release, *Lockheed Martin Awarded $2 Billion Contract to Build Network Missions Operations System* (Jan. 27, 2006) (the team included Northrop Grumman, Telcordia Technologies, and SAIC, among others).

[351] *Id.*

[352] AT&T Wireless News Release, *AT&T Wireless Forms Systems Integrator Program To Design and Implement End-to-End Mobile Solutions for U.S. Companies* (Mar. 18, 2003).

[353] General Dynamics Information Technology, *About Us,* http://www.gdit.com/about/index.aspx?id=710&ekmensel=146_submenu_190_link_1.

[354] *See* General Dynamics Press Release, *General Dynamics Awarded $18 Million Contract to Deliver VoIP to the Pentagon* (May 17, 2007) ("General Dynamics Information Technology, a business unit of General Dynamics (NYSE: GD), has been awarded a contract… to design and install a Voice-over-Internet-Protocol (VoIP) solution for the Pentagon, to upgrade audiovisual systems and to provide security equipment. The modification, including VOIP, has a potential value of $18.4 million over three years."); General Dynamics Press Release, *General Dynamics Team Selected To Implement U.S. Government's Nationwide Integrated Wireless Network* (Apr. 19, 2007) (General Dynamics was chosen by the Department of Justice to "implement nationwide, interoperable wireless communications services" as part of the Integrated Wireless Network (IWN) program. The IWN "will provide a range of secure and reliable wireless communications services, including voice, data and multimedia, to support federal law enforcement, homeland security and first responder operations.").

General Dynamics to compete for Networx Universal contracts: General Dynamics will design, implement and validate network architecture, and evaluate network technology alternatives.[355]

Computer Sciences Corp. Computer Sciences Corp. (CSC) is a leading international IT services company that specializes in providing outsourcing, systems integration and consulting services. Currently, 26 percent of CSC's revenue is derived from domestic commercial business.[356] In 2006, CSC signed a number of large, private-sector contracts, with companies such as Blue Scope Steel, Ltd. ($378 million)[357] and Newmont Mining Corporation ($180 million).[358] CSC is part of the Verizon Business team that has been awarded a Networx Universal program contract.[359]

Vanco PLC. Vanco PLC calls itself a "Virtual Network Operator" ("VNO"). Rather than build out its own network, Vanco designs and implements virtual network solutions using existing infrastructure. The Company claims to "get the best prices for our customers" by "treating infrastructure as a commodity" rather than an asset.[360] In 2005, Vanco bought Universal Access, to "form the heart of its VNO Division."[361] The VNO Division "provides layer 1 through layer 3 network services to carriers outside of their network footprint."[362] Carriers such as Swisscom, Bell Canada and Verizon "partner with Vanco to extend their network reach, cut costs and expedite the network procurement and provisioning processes."[363] In addition to providing network services, Vanco "maintains up-to-date information on product, pricing and services available from over 4000 carriers in all 230 countries and territories in the world."[364] This planning tool contains information on over 3,000 service providers in the U.S. alone.[365] Vanco delivered a customized version of this software to XO which "compares unbundled network elements (UNEs) and special access across hundreds of ILECs and IXCs to provide the least cost alternative circuit design options in real time."[366]

---

[355] General Dynamics Press Release, *General Dynamics on Verizon Business Team Selected for Multi-Year Networx Universal Contract* (Apr. 27, 2007).

[356] Computer Sciences Corp., *CSC Fact Book* at 4 (July 2007).

[357] Computer Sciences Corp., *2007 Annual Report* at 2.

[358] *Id.* at 3.

[359] Computer Sciences Corp. Press Release, *CSC Part of Verizon Business Team Awarded GSA Networx Universal Contract* (Apr. 30, 2007) ("'CSC is excited to be a part of the winning Verizon Business team selected to help the GSA usher in a new era of advanced communications for the federal government,' said James W. Sheaffer, president of CSC's North American Public Sector business unit.").

[360] Vanco PLC, *What We Do,* http://www.vanco.com/CMAN/2D302D2328.

[361] Vanco PLC, *Vanco in the USA,* http://www.vanco.com/ContentManager/Document.asp?GroupId=2&TypeId=302&Id=2384.

[362] Vanco PLC, *The Vanco VNO Division,* http://www.vanco.com/CMAN/2D302D2385.

[363] *Id.*

[364] Vanco PLC, *Freedom to Access the World's Biggest Network,* http://www.vanco.com/CMAN/2D303D2347.

[365] Vanco PLC, *Stats and Facts,* http://www.vanco.com/CMAN/2D305D2383.

[366] Vanco PLC Press Release, *Vanco Partnership Improves XO Back Office Efficiency* (May 2, 2006).

Table 1. Fixed Wireless Providers		
Company	**MSAs Served**	**High-Capacity Service Offerings**
FiberTower (incl. First Avenue Networks)	"39 GHz footprint covering 99% of the United States" and "24 GHz footprint in top 77 metros" Networks in Washington, DC; Boston; Chicago; Cleveland; Dallas/Fort Worth; Denver, Detroit; Houston; New York/New Jersey; Pittsburgh; San Antonio/Austin/Waco; and Tampa. Atlanta and the Carolinas are under development.	"[Access] Services include wireless equivalents of **NxT1, DS3, OC3 and Carrier Ethernet**." "Government Connection . . . provid[es] wireless equivalents of up to **16xT1, DS-3, OC-3 and 100 Mbps Carrier Ethernet**."
Towerstream (incl. Speakeasy)	"[D]ense coverage" of Miami, Seattle, San Francisco, Los Angeles, Chicago, New York City, Boston, Providence, and Newport, RI "We are continually expanding coverage throughout the country."	Wireless connectivity at speeds from **T1 "up to 1,000 Mbps"** For large enterprise customers, "[w]e offer industry-shattering prices on links from **100 to 1000 Mbps.**"
Conterra Ultra Broadband	Communities in 14 states, including California, Georgia, Kansas, Maine, North Carolina, New York, Pennsylvania, South Carolina, Utah, Virginia, and West Virginia	"Conterra alternative access services extend within and beyond traditional network end-points to offer education, healthcare, business, and government entities in underserved communities and carrier customers scaleable **10 Mbps to 1 Gbps** broadband connections."
Covad Wireless (formerly NextWeb and DataFlo)	San Francisco Bay Area, Los Angeles/Orange County, Las Vegas, and Chicago "The company's service area encompasses over 220 cities across more than 3,000 square miles and covers more than 50,000 small and medium-sized enterprises (SMEs) in population centers that include more than 25 million households."	Covad Wireless Super-T service for small and medium-sized businesses provides speeds "**up to 6 Mbps (the speed of 4 bonded T1's or a fractional DS3)**." "Covad Wireless's HiCap solutions are available in speeds ranging from **10 Mbps up to 100 Mbps**."
Nextlink (XO)	Fixed wireless spectrum footprint covers "95% of the population in 75 of the top markets in the United States." Networks in 36 metropolitan markets: Akron, Atlanta, Austin, Baltimore, Boston, Cleveland, Chicago, Colorado Springs, Columbus, Dallas, Denver, Detroit, Fort Lauderdale, Houston, Las Vegas, Los Angeles, Memphis, Miami, Minneapolis/St. Paul, Nashville, Oakland, Philadelphia, Phoenix, Pittsburgh, Portland, Sacramento, San Antonio, San Diego, San Francisco, San Jose, Seattle, St. Louis, Tampa, Tucson, Washington, DC, and Wilmington	"The Nextlink network supports both voice and data traffic at connection speeds ranging from **1.544 Mbps (T-1) up to 155 Mbps (OC-3)**."
Clearwire	43 markets in 15 states: Alaska, California, Florida, Hawaii, Idaho, Minnesota, Nevada, New York, North Carolina, Ohio, Oregon, Texas, Virginia, Washington, and Wisconsin	Downstream speeds up to **1.5 Mbps**
Airband (incl. WindChannel)	Markets include Austin, Baltimore, Dallas, Houston, Philadelphia, and Phoenix	"[D]edicated bandwidth **up to GigE speeds**."
ISG	Holland and Grand Rapids, MI	"Business Class Broadband Connectivity . . . [with] Access speeds from **256Kbps to 45Mps** . . . with quality equivalent to fiber."

Table 1. Fixed Wireless Providers		
Company	**MSAs Served**	**High-Capacity Service Offerings**
Rioplex	South Texas	"Rioplex offers a wide range of Wireless Internet Access Services . . . [including] wireless **T1 solutions, and up to our 54mb** SmartShots."
US Wireless Online	"Spanning approximately 3,000 square miles across an eleven state region" including Alabama, Florida, Indiana, Kentucky, Mississippi and Pennsylvania	"Wireless broadband internet access for commercial, multi-tenant residential and government users, priced in multiple tiers from **512kbps to 10mbps.**"
One Ring Networks	Atlanta	Business services at speeds of **1.5 to 10 Mbps.** "ILEC-free transport services in bandwidths from **1.5 Mbps to 1 Gbps.**"
Alpheus	Houston, Dallas, Fort Worth, Austin, San Antonio, Corpus Christi	"Our core product offerings include cell site backhaul and aggregation as well as Hubbed and Point-to-Point Service, at bandwidth speeds ranging from **DS-1 to OC-192**, Gigabit Ethernet and Managed Wavelengths."

Sources for Table 1

FiberTower. FiberTower, *Spectrum Assets,* http://www.fibertower.com/corp/company-spectrum-assets.shtml; FiberTower, *Market Presence*, http://www.fibertower.com/corp/company-market-presence.shtml; FiberTower, *Solutions: Solving the Access Network Bottleneck*, http://www.fibertower.com/corp/solutions-access.shtml; FiberTower, *Solutions: Primary & Redundancy Access for Government*, http://www.fibertower.com/corp/solutions-government.shtml.

Towerstream. Towerstream, *Service Areas*, http://www.towerstream.com/content.asp?serviceareas; Towerstream, *Overview,* http://www.towerstream.com/content.asp?overview; Towerstream, *Enterprise,* http://www.towerstream.com/content.asp?enterprise.

Conterra Ultra Broadband. Conterra Ultra Broadband, *Communities List*, http://www.conterra.com/communities.php; Conterra Ultra Broadband, *Products & Services*. http://www.conterra.com/products/index.php.

Covad Wireless. Covad Wireless, *About Covad Wireless,* http://www.covadwireless.com/about.html; Covad Wireless, *Covad Wireless T1-class Business Internet: Super-T*, http://www.covadwireless.com/services-super-t.html; Covad Wireless. *Covad Wireless DS3-class Business Internet Access: HiCap*, http://www.covadwireless.com/services-hicap.html.

Nextlink (XO). Nextlink, *About Nextlink,* http://www.nextlink.com/about_nextlink.htm; XO Communications Press Release, *XO Communications Expands Broadband Wireless Coverage to 36 Markets* (July 11, 2007).

Clearwire. Clearwire, *Clearwire Facts*, http://www.clearwire.com/company/facts.php; Clearwire, *Interactive Coverage Map*, http://www.clearwire.com/store/service_areas.php.

Airband. *Investors Sink New Money into Airband*, Wireless Business Forecast (June 18, 2007); Airband Communications Press Release, *Airband Secures $12.5 Million in Funding To Accelerate Growth in Existing Markets, Expand Product Set* (May 29, 2007) (quoting Airband President and CEO Mark Spagnolo).

ISG. ISG, *ISG Facilities,* http://www.goisg.com/aboutus/facilities.asp; ISG, *Wireless Broadband,* http://www.goisg.com/infrastructure/wireless/default.asp.

Rioplex. Rioplex Broadband, *Our Coverage Areas,* http://www.rioplexwireless.com/web/coverage.php; Rioplex Broadband, *About Our Services,* http://www.rioplexwireless.com/web/services.php.

US Wireless Online. US Wireless Online, Form 10-KSB at 6 (SEC filed Nov. 29, 2006); US Wireless Online, *US Wireless Online,* http://www.uswo.net/; US Wireless Online, *About Us,* http://www.uswo.net/aboutus.htm.

One Ring Networks. One Ring Networks, *Our Technology*, http://www.oneringnetworks.com/technology.php; One Ring Networks, *Voice and Data Convergence*, http://www.oneringnetworks.com/assets/OR-SellSheet.pdf; One Ring Networks, *Services for Carriers: Alternative Access*, http://www.oneringnetworks.com/c_access.php.

Alpheus. Alpheus Communications, *Alpheus Communications*, http://www.alpheuscommunications.com/; Alpheus Communications, *Alpheus Wireless Carrier Solutions*, http://www.alpheuscommunications.com/solutions.shtm.

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT M

EXHIBIT 11

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
ACN Communications Services, Inc.	All forbearance MSAs[1]	"ACN's annual revenues have skyrocketed to over half a billion dollars, with annual double-digit growth year after year."[2] "Because of the ease of acquisition. we have been able to produce hundreds of millions of dollars in revenue for ourselves and still provide tremendous savings for customers and opportunities for representatives."[3] "ACN's outstanding product portfolio includes Local and Long Distance services. Internet services, Wireless, and Digital Phone Service with Video Phone, operating on ACN's own state of the art network. ACN is able to offer impressive alternatives to these services and pass along tremendous savings by marketing directly to consumers through thousands of commission based Independent Business Representatives worldwide. ACN has earned the loyalty of hundreds of thousands of customers since operations began in 1993."[4]
ATX Communications, Inc. (acquired by Broadview[5])	Boston, New York, Philadelphia, Pittsburgh, and Providence MSAs[6]	"Roughly 18,000 business customers . . . Approximately $160 million in annual revenues (2005) . . . State-of-the-art fiber optic ATM network with more than 90 major points of presence nationwide"[7]
Broadview Networks, Inc.	Boston, New York, Philadelphia, Pittsburgh, and Providence MSAs[8]	Serves approximately 80,000 small and mid-sized business customers in 20 markets from Maine to Virginia, including major metropolitan areas such as New York, Philadelphia, Boston, and the Baltimore-Washington corridor. . . . [G]enerated annual revenues in excess of $500 million in 2006.[9] Broadview President and CEO Michael K. Robinson: "We will have robust direct and indirect sales channels and significant market density, particularly in New York, Pennsylvania, and New England. [Broadview and InfoHighway] will be powered by a carrier-grade network of 11 switches. a core IP platform that supports MPLS throughout the entire footprint, metro-Ethernet capabilities available throughout the major network hubs, over 2,300 route miles of fiber, more than 260 collocations, and over 500 lit commercial office buildings."[10]

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
Broadwing Communications, LLC (acquired by Level 3[11])	All forbearance MSAs[12]	In 3Q06, "Total revenue increased by $13.2 million or 6% year-over-year, led by robust sales of data/broadband services.[13] Combined data/broadband revenues increased by $13.8 million or 12% year-over-year due primarily to strong sales of converged and high speed optical services to both large enterprises and communications service providers."[14] "For the third quarter 2006, Broadwing reported total revenue of $231.9 million, compared to $224.3 million reported for the second quarter 2006 and $218.7 million for the third quarter 2005."[15] "Broadwing Communications, LLC (Broadwing), a consolidated subsidiary of Broadwing Corporation today announced the expansion of its Media Services Network to 41 U.S. markets, giving Broadwing the largest DTM (Dynamic Synchronous Transfer Mode) footprint in North America. This is the company's second expansion this year to meet growing demand, driven in large part by the 2005-2006 seasons of major sports associations and leagues. Broadwing began 2005 with five initial sites and expanded to 20 in April."[16]
Cavalier Telephone Corporation	All forbearance MSAs[17]	"We have become the largest full service competitive communications provider in the country with 2007 projections of over $750 million of revenue and $150 million of operating cash flow. [...] The expanded Cavalier network covers the Mid Atlantic, Midwest and Southeast regions and serves six of the top 20 DMA markets in the country. We have 531 end office collocations attached to our $1 billion fiber optic network consisting of 3,000 miles of metro fiber and 8,000 intercity fiber miles that extend from Boston to Chicago down to Wilmington, North Carolina. 2007 Fiber augmentations are planned for Michigan, Ohio and other southeastern markets."[18] "[C]urrently serve over 550,000 residential customers, 85,000 business customers and employ over 2,000 people."[19] "Cavalier continues to outperform versus prior periods and versus our peer group."[20]

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
CityNet Pennsylvania, LLC	Pittsburgh and Philadelphia MSAs Parent company serves New York MSA as well[21]	"Citynet Wholesale, a facilities-based broadband service provider for underserved Tier 2 and Tier 3 markets, announced plans to make significant capital investments to expand its network in 2007. The planned network expansion will allow Citynet to provide service to 17 new markets across six additional LATAs by year's end. Citynet will focus its expansion efforts in Kentucky, Ohio and Virginia, to total three new sites. Additional new markets will be added in Indiana, Maryland, Pennsylvania and West Virginia."[22] "We have built our network in direct response to our customers' needs. This success-based approach allowed us amazing growth in '06. That same approach in '07 will allow us unprecedented expansion for a company our size."[23]
Comcast Corporation	Boston, Philadelphia, and Pittsburgh MSAs[24]	Comcast EVP, Co-CFO and Treasurer John Alchin: "[Comcast Digital Voice] continues to ramp and as a result, phone revenue increased over $300 million in the fourth quarter, driven by over 500,000 net customer additions. Phone revenue increased 45% to almost $1 billion as we added 1.5 million CDV customers for the year, 50% above the original guidance."[25] "So we are significantly ahead of our plan to reach 20% penetration by the end of 2009. On average, we marketed phone to 27 million homes in 2006, and that number will grow to over 37 million homes on average in 2007. This footprint expansion, coupled with the newly launched markets maturing makes us feel confident we will meet our goal of adding at least 2.6 million phone customers in 2007."[26]
Covad Communications Group	All forbearance MSAs	Covad president and CEO Charles Hoffman: "In 2006, Covad achieved its goals of becoming cash flow, excluding [Line-Powered Voice Access] expenditures, and A-EBITDA positive while accelerating our transition from being a provider of wholesale broadband services to becoming a direct provider of high-growth, high-margin offerings like Voice over IP, line-powered voice, and business-class wireline and wireless broadband. We also continued to invest in our future growth through the completion of the nation's largest next-generation network."[27] "Net revenues for the fourth quarter of 2006 totaled $119.5 million, an increase of $0.9 million from the $118.6 million reported for the third quarter of 2006, and an increase of $5.8 million, or 5.1 percent, from the $113.7 million reported for the fourth quarter of 2005."[28]

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
Cox Communications, Inc.	Providence and Virginia Beach MSAs[29]	Cox ended 2006 with "over 2 million telephone customers, representing growth of over 21%."[30]
EarthLink, Inc. and New Edge Networks, Inc.	New York and Philadelphia MSAs	EarthLink interim CEO Mike Lunsford: During the fourth quarter of 2006, "[o]ur Internet voice initiative had its best quarter yet, and we recorded our record 14th consecutive quarter of growth from our value-added services."[31] "During the fourth quarter of 2006, EarthLink added 29,000 net broadband customers. . . . Additionally, the net growth in broadband customers included 12,000 net voice subscribers, which was EarthLink's best quarter for voice subscriber additions."[32] EarthLink interim CEO Mike Lunsford: "We launched voice services in eight additional markets late in the third quarter . . . by the end of the fourth quarter we were deployed at 12 markets representing over 10 million homes [passed]. Our partner Covad continued to fill in coverage in our new markets during the fourth quarter as we focused on customer demand creation and streamlining our provisioning process."[33]
Eureka Telecom, Inc. d/b/a InfoHighway Communications	All forbearance MSAs[34]	"Founded in 1993, the company has become one of the fastest growing and largest competitive telecommunications and data/Internet service providers in the 14-state region from Maine to Virginia, with special focus on the major metropolitan areas of New York, Washington D.C. and Boston. With over 14,000 business customers, InfoHighway was listed among Crain's Magazine's List of Top 200 Largest Privately Held Companies in New York in 2004 and 2005."[35] "InfoHighway has been providing converged solutions to customers in the New York and New Jersey metropolitan area for the past three years, and to date we have successfully deployed over 10,000 VoIP subscriber lines. The expansion into Massachusetts is consistent with our goal of continuing to grow our product portfolio and offer leading-edge products and services to both our customers and Agent partners."[36]

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
ITC^DeltaCom Communications, Inc.	New York, Philadelphia, and Virginia Beach MSAs[37]	"ITC^DeltaCom, Inc., a leading provider of integrated communications services to customers in the southeastern United States, today announced the implementation of a network upgrade that will immediately enable multi-meg services (up to 6 Mbs) in sixteen markets and the future delivery of VOIP services and features."[38] "Our focus on profitable growth has resulted in a very positive progression of financial results in 2006. We've expanded our sales force and our product set in recognition of the Company's strong position in our core markets. This new financing and additional liquidity will provide us with the capital necessary to continue our pursuit of growth in our core facilities-based business as well as increase focus on the Wholesale and Enterprise sectors. We're committed to building on the successes of our recent product launches, enhancing our MPLS and Simpli-Business offerings and driving growth in our Ethernet, Multi-Meg voice and data offering, and VoIP solutions."[39]
Monmouth Tel, Inc.	New York and Philadelphia MSAs[40]	"[W]e have 10 years of continuous growth and have avoided the accumulation of any debt, which places us in a strong position for continued expansion and financial stability."[41] "Currently providing service to over 11,000 New Jersey customers."[42]
One Communications Corp.	Boston, New York, Philadelphia, Pittsburgh, and Providence MSAs[43]	"One Communications serves more than 160,000 businesses, from large to small, in 16 states throughout the Northeast, Mid-Atlantic and Upper Midwest regions."[44] "With nearly $800 million of revenue, strong EBITDA margins and a conservative capital structure, this company has not only financial strength, but also advanced technologies, value-added services, and excellent customer focus."[45]

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
RCN Telecom Services, Inc.	Boston, New York, and Philadelphia MSAs[46]	"RCN completed another impressive year in 2006, achieving the high end of our performance expectations," stated James F. Mooney, Chairman of RCN's Board of Directors. "Over the past two years, RCN has diligently executed against a balanced strategy to drive profitability and cash flow growth while strategically expanding our footprint and rationalizing our asset portfolio. In 2006, we delivered 45% EBITDA growth, a 500 basis point EBITDA margin expansion, and a return to positive free cash flow while simultaneously jump-starting customer growth. I want to congratulate the entire RCN team on another great year."[47] "RCN had approximately 425,000 customers as of December 31, 2006 versus 424,000 as of September 30, 2006 and 419,000 subscribers as of December 31, 2005."[48] "Total revenue for the full year 2006 grew 10% to $617 million from $561 million last year; core residential revenue grew 4% and commercial revenue increased by 173%. 2006 EBITDA of $132 million grew 45% from $91 million in 2005; 2006 EBITDA margin increased by approximately 500 basis points to 21%. Capital expenditures for 2006 were $89 million versus $74 million in 2005."[49]
RNK Inc.	All forbearance MSAs[50]	"Over the past 18 months, RNK has recorded very significant growth in number of subscribers nationwide, breadth and depth of our service offerings, and in number of employees."[51]
segTEL, Inc.	Boston MSA[52]	"'We own as much of our network as possible,' said [segTEL founder and CEO Jeremy Katz], who noted the company has never taken a loan and is entirely self-funded by the profits.[53]

Competitive Provider Filing Comments in This Proceeding	**Forbearance MSA(s) in Which Competitor Operates**	**Recent Statements of Competitive Provider That It Is Competing Successfully**
Time Warner Telecom Inc.	New York MSA[54]	2006 "was an incredibly strong year for the Company," said Larissa Herda, Time Warner Telecom's Chairman, CEO and President. "Our organic results including revenue growth. M-EBITDA, margins, cash flow and customer growth were all impressive. We successfully executed a strategic acquisition, and accelerated free cash flow through accretive refinancing activities while maintaining our financial flexibility. We leveraged the positive momentum of our business to facilitate two equity offerings, which resulted in us becoming a non-controlled company, eliminating our Class B super-voting shares. In addition, we continued to invest in the business to focus on delivering complex solutions and serving large customer opportunities, all positioned to capture greater market share and grow revenue."[55] In the fourth quarter of 2006, Time Warner Telecom "[g]rew total revenue 29% year over year and 22% sequentially," "[g]rew enterprise revenue 43% year over year, and 29% sequentially," "[g]rew data and Internet revenue 40% year over year and 16% sequentially," and "[p]roduced $80.2 million of [modified EBITDA], and 34% M-EBITDA margin."[56]
XO Communications, LLC	Boston, New York, Philadelphia, and Pittsburgh MSAs[57]	XO Holdings CEO Carl Grivner: "We continue to see strong demand for XO Communications' core communications services, including commercial and wholesale voice over IP services and high-bandwidth network transport services."[58] "XOptions Flex, [XO's] award-winning VoIP service, now supports more than 100,000 business customer employees. . . .[M]ore than 7,500 businesses nationwide have deployed XOptions Flex and enjoy the benefits of an integrated VoIP services solution that provides enhanced features, functionality and value for voice, Internet access and web hosting, all in one simple package."[59]

[1] ACN, *Local Calling*, *available at* http://www.acninc.com/acn/us/products/Local_Calling/index.jsp.

[2] ACN, *Global Market Leader*, http://www.acninc.com/acn/us/about_us/index.jsp.

[3] K. Hampshire, *Tapping the Network*, Smart Business Detroit (Dec. 2005) (quoting Greg Provenzano, President and Co-founder of CAN, Inc.), http://www.sbnonline.com/National/Article.aspx?CID=7976.

[4] ACN Press Release, *ACN Launches New Digital Phone Service* (Feb 5. 2007).

[5] ATX Communications Press Release, *Broadview Networks Completes Acquisition of ATX Communications* (Oct. 12, 2006).

[6] ATX Communications, *Contact: Locations*, http://www.atx.com/contact_locations.php. *See also* ATX Communications Press Release, *Broadview Networks Completes Acquisition of ATX Communications* (Oct. 12, 2006); ATX Communications Press Release, *Broadview Networks To Acquire ATX Communications* (June 27, 2006) (quoting Michael K. Robinson, Chief Executive Officer of Broadview).

[7] ATX Communications, *Facts and Figures*, http://www.atx.com/company_facts.php.

[8] Broadview Networks, *Service Coverage Area*, http://www.broadviewnet.com/Products_Services/Common/ServiceArea.asp?scenario=0.

[9] Broadview Networks Press Release, *Broadview Networks To Acquire InfoHighway Communications* (Feb. 26, 2007).

[10] *Id.*

[11] Level 3 Press Release, *Level 3 Completes Acquisition of Broadwing* (Jan. 3, 2007).

[12] Level 3, *Network Map*, http://www.level3.com/images/global_map/Level_3_Network_map.pdf.

[13] Broadwing Corporation, Form 8-K, Exhibit 99.1 (Nov. 8, 2006).

[14] *Id.*

[15] *Id.*

[16] Broadwing Corporation Press Release, *Broadwing Communications Expands Media Services Network to More than 40 U.S. Cities, Becomes the Largest DTM Network in North America* (Oct. 24, 2005).

[17] Cavalier Telephone, *Cavalier Service Area*, http://www.cavtel.com/business/index.shtml.

[18] Cavalier Telephone, *Company Information*, http://www.cavtel.com/company/index.shtml.

[19] Cavalier Telephone Press Release, *Cavalier Enters into Agreement To Acquire Talk America* (Sept. 22, 2006).

[20] Cavalier Telephone Press Release, *Cavalier Telephone Reports Strong First Quarter 2006 Results* (May 31, 2006).

[21] CityNet, *Coverage Area*, http://www.citynet.net/coveragelargemap.cfm.

[22] *Citynet To Reach 17 New Markets in 2007*, Phone Plus Mag (Feb. 28, 2007), http://www.phoneplusmag.com/hotnews/72h23122955.html.

[23] *Id.* (quoting Citynet vice president of sales and marketing Tom Payne).

[24] Comcast Corporation, *Comcast Digital Voice Fact Sheet*, http://media.corporate-ir.net/media_files/irol/14/147565/digital_voice.pdf.

[25] *Q4 2006 Comcast Corporation Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 020107aw.762 (Feb. 1, 2007).

[26] *Id.*

[27] Covad Press Release, *Covad Communications Group Reports Fourth Quarter 2006 Results* (Feb. 13, 2007).

[28] *Id.*

[29] Cox Communications, *Cox Digital Telephone FAQs*, http://www.cox.com/hr/help/telephone/faq-phone.asp#serviceable; Cox Communications, *Digital Telephone : Rhode Island Toll-Free Calling Guide*, http://cox.com/NewEngland/Telephone/TollFree_RI.asp.

[30] Cox News Release, *A Decade of Bundling Delivers Cox Communications Considerable Competitive Advantages* (Jan. 30, 2007).

[31] EarthLink Press Release, *EarthLink Announces Fourth Quarter and Full Year 2006 Earnings* (Feb. 6, 2007).

[32] *Id.*

[33] *Q4 2006 EarthLink Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 020607ax.754 (Feb. 6, 2007).

[34] InfoHighway Communications, *Local Phone Service*, http://www.infohighway.com/Local_Phone.html.

[35] InfoHighway Communications, *About Us*, http://www.infohighway.com/about.html.

[36] InfoHighway Communications Press Release, *InfoHighway Communications Extends Hosted PBX Service to the Boston, Massachusetts Market* (June 30, 2006) (quoting Raul K. Martynek, InfoHighway President and CEO).

[37] Deltacom, *About Us: Fiber Optic Network*, http://www.deltacom.com/fiberoptic_network.asp.

[38] ITC^DeltaCom Press Release, *ITC^DeltaCom Announces Network Upgrade To Deliver Multi Meg and IP Enabled Voice and Data Services* (Jan. 17, 2007).

[39] *ITC^DeltaCom Announces Transaction for $21 Million in New Funding To Support Growth*, PR Newswire US (Oct. 30, 2006) (quoting ITC^DeltaCom's CEO Randall E. Curran).

[40] Monmouth Telecom Comments at 1.

[41] Monmouth Telecom, *Corporate Profile*, http://www.monmouth.com/corporate_profile.htm.

[42] *Id.*

[43] One Communications, *Coverage Map*, http://www.onecommunications.com/uploadedFiles/OneMktMap.pdf.

[44] One Communications, *About Us*, http://www.onecommunications.com/our-company/index-clec-one.aspx?TierSlicer1_mtid=40&TierSlicer1_mtt=4&TierSlicer1_mid=8.

[45] One Communications Press Release, *One Communications Names Howard E. Janzen CEO* (Mar. 26, 2007) (quoting CEO Howard E. Janzen).

[46] RCN, *Regional Coverage*, http://www.rcn.com/company/regionalcoverage.php.

[47] RCN Press Release, *RCN Reports Fourth Quarter and Full-Year 2006 Results* (Mar. 15, 2007) (quoting RCN Chairman James F. Mooney).

[48] *Id.*

[49] *Id.*

[50] RNKVoIP, *The RNKVoIP Network & Number Availability*, http://www.rnkvoip.com/network.html.

[51] J. Torres, *RNK Enhances Switching Capacity for VoIP & PSTN Net*, TMCnet (July 19, 2006) (quoting RNK president and CEO Richard N. Koch), http://www.rnktel.com/press/pr_071906.html.

[52] P. Tracy, *Jeremy Katz Has Ambitious Goal for His Fledgling Phone Business*, Union Leader at C6 (Jan. 29, 2007) ("While segTEL's core is undeniably the Upper Valley, it is a local exchange carrier throughout parts of New Hampshire, Vermont, Massachusetts and Maine.")

[53] *Id.*

[54] Time Warner Telecom, Form 10-K (SEC filed Mar. 16, 2006). *See also* Time Warner Telecom, Form 10-K (SEC filed Mar. 1, 2007).

[55] Time Warner Telecom Press Release, *Time Warner Telecom Reports Strong Fourth Quarter 2006 Results* (Feb. 6, 2007).

[56] *Id.*

[57] XO Communications, *Voice Assets: XO Communications*, http://www.xo.com/about/network/maps/voice_large.html.

[58] XO Communications Press Release, *XO Holdings Reports Third Quarter 2006 Results* (Nov. 9, 2006).

[59] XO Communications Press Release, *XO Communications Marks 100,000 Business VoIP Users* (Jan. 24, 2007).

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	Case 06-C-0897

SUPPLEMENTAL FILING OF VERIZON NEW YORK INC. IN SUPPORT OF INCREASED PRICING FLEXIBILITY FOR RETAIL BUSINESS SERVICES

ATTACHMENT N

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Tariff Filing of Verizon New York Inc. to Implement Pricing Flexibility for Non-Basic Services	**Case 06-C-0897**

AFFIDAVIT OF MICHAEL A. NAWROCKI

STATE OF MARYLAND)
: ss.:
MONTGOMERY COUNTY)

MICHAEL A. NAWROCKI, being duly sworn, deposes and says:

1. My name is Michael A. Nawrocki. I am employed as Director – Standards and Regulatory in Verizon's Technology organization. As such, I am responsible for managing Verizon's participation and strategy in over 35 standards and industry bodies and supporting state and federal regulatory activities that relate to technology issues. I have over 29 years experience in telecommunications engineering, planning and design, including broadband delivery platforms and business/consumer services. As part of my industry and technology assessment responsibilities, I have extensive technical knowledge on the design and capabilities of competitive networks and services. I was also involved in the review of video delivery platforms, including those used by incumbent cable companies, in connection with the development of Verizon's FiOS TV offering.

2. I submit this affidavit in support of the application of Verizon New York Inc. ("Verizon") for increased pricing flexibility for the intrastate retail business services that it offers in New York.

3. As I show below, cable companies have the technical capability to offer services that compete with the full range of retail business services offered by Verizon. In the supplemental comments that accompany this affidavit, Verizon demonstrates that cable companies are actually utilizing these capabilities to deliver a wide range of business services to small, medium, and large business customers.

4. As has been widely reported in the industry press, in recent years Multiple [Cable] System Operators ("MSOs") have been making substantial expenditures to upgrade their video distribution networks in order to provide both broadband data connections and Voice over IP ("VoIP") telephone services to their customers. Most early cable networks were based on coaxial cable ("coax") running from the cable company's head end to the customer's premises. In the 1990s, many MSOs began to deploy fiber nodes (typically serving about 500 subscribers), which were connected to their head-ends by fiber-optic cable rather than coaxial cable. The result of these efforts was the modern hybrid fiber-coax ("HFC") cable network. Cable companies are now considering deepening their fiber penetration, either by splitting nodes (so that they serve smaller numbers of customers), or else by running fiber directly to the curb or to the customers' premises.

5. Aside from their HFC cable plant, cable companies such as Cablevision, Time Warner, and RCN have also invested — directly or through affiliates such as Cablevision's Optimum Lightpath — in all-fiber networks that can utilize Metro Ethernet technology to provide high-capacity advanced services to larger businesses.

6. A decade ago, CableLabs, the research and development arm of the cable industry, introduced its first "DOCSIS" specifications for high-speed cable modems, and thus enabled cable companies to deliver broadband connections to their customers' premises over their HFC networks. Successive versions of the specifications have enabled vendors to develop cable modem equipment that delivers higher bandwidths, better service quality, improved data security, and greater symmetry between upstream and downstream bandwidth — an important consideration for the delivery of voice services. DOCSIS 2.0-certified products have been available since 2002, and are now widely deployed in MSO networks. This marked a breakthrough in the ability to support high-speed symmetrical rates, with DOCSIS 2.0 supporting upstream and downstream data rates up to 30 Mbs between the head end and a

fiber node.[1] Although this bandwidth is shared by the end-user customers served by the node, cable companies can adjust the amounts of bandwidth delivered to individual customers by splitting existing nodes or by setting up dedicated nodes where a particular customer's requirements are particularly high.

7. In August of 2006, CableLabs completed the DOCSIS 3.0 specifications, which enabled significantly increased upstream and downstream data rates (120 Mbs or higher upstream and160 Mbs or higher downstream).[2] Recent press reports indicate that vendors expect to submit DOCSIS 3.0-compatible equipment to CableLabs for certification as early as the fourth quarter of 2007. Deployment is reportedly being put "on a fast track" by cable operators and could begin as early as the second quarter of 2008.[3]

8. The bandwidth delivered to a business customer's premises using DOCSIS-compliant cable modems can be utilized to provide a wide range of business voice services as well as data services. CableLabs' PacketCable specifications for delivering voice and other services over DOCSIS-compatible cable plant have been in place since the earliest days of DOCSIS.

9. Cable companies have been using this technology to deliver VoIP telephony to their customers. Precisely the same technology that is used to provide VoIP to residential customers can be used to provide it to business customers that require a small number of individual lines.

10. The introduction of embedded Multimedia Terminal Adapters ("EMTAs") provides additional flexibility for business customers by integrating cable modem technology with previously

---

[1] *See, e.g.*, http://www.cablelabs.com/news/pr/2002/2002_01_16.html; http://www.cablelabs.com/news/pr/2002/02_pr_docsis_cw24_121902.html.

[2] *See* http://www.cablelabs.com/news/pr/2006/06_pr_docsis30_080706.html.

[3] *See* "Cable Labs Accelerates Docsis 3.0 Testing," Cable Digital News, April 16, 2007 (http://www.lightreading.com/document.asp?doc_id=121891&print=true).

separate MTA devices (which provides the VoIP service adapter). Multi-port EMTAs have recently been introduced by vendors that offer up to 12 VoIP service ports.[4]

11. Cable companies can also provide service to medium-size business customers whose needs cannot be met by individual voice-grade business lines through the use of widely available "circuit emulation" equipment. This technology allows HFC cable networks to deliver T1 connections at a business customer's premises that can interface with the customer's existing digital PBX system. In this manner, customers desiring traditional T1 service interfaces, along with the associated quality of service and performance requirements (such as stringent latency requirements for voice), have available a wide range of compatible equipment and capabilities. Numerous vendor websites that advertise T1 emulation equipment are listed in the supplemental Verizon comments that accompany this affidavit. The comments also quote analysts and commentators who refer to the ability of cable companies to address the needs of the SMB (small-medium business) market through this technology.

12. T1-based services are actually offered by cable companies to business customers. Indeed, some cable companies offer not only T1-type interconnection options for digital PBXs, but also Centrex-type services for the SMB market, as Verizon's supplemental comments demonstrate.

13. In August 2007, CableLabs issued a new revision of its "Business Services over DOCSIS" TDM Emulation Interface Specification.[5] As described by CableLabs:

> Business Services over DOCSIS-TDM Emulation service (BSoD-TE) is a method for cable operators to deliver T1, E1 and NxDS0 emulation services that meet or exceed the quality requirement of applications that use such services. This specification is part of the DOCSIS® family of specifications developed by Cable Television Laboratories (CableLabs), and in particular, defines the BSoD-TE architecture and components that comply with DOCSIS. This specification was developed by CableLabs for the benefit of the cable industry, and includes contributions by operators and vendors from North America, Europe, and other regions.

---

[4] *See* http://www.innomedia.com/pressroom/releases/pdf/2006-09-11_EMTAs4_12.pdf.

[5] http://www.cablemodem.com/downloads/specs/CM-SP-TEI-I03-070803.pdf.

> In legacy telecommunication networks, telephone calls are often brought into households, one at a time, over twisted pair wires. To transport many telephone calls at once (i.e., between business, wireless base stations and in the telephone network), single calls are time-multiplexed together into 'T1' signals. A single T1 signal carries 24 individual calls, and a similar European 'E1' signal carries 32 calls. Since T1 and E1 (T1/E1) services have been deployed for quite some time, the performance standards, tariffs and market are well defined. A number of ITU and ANSI standards define the various aspects of T1/E1 services. Moreover, the usage and deployment models of T1/E1 lines are well understood.
>
> This specification outlines the methods by which T1/E1 structured, unstructured, and fractional signals can be converted to IP packets, transported over a DOCSIS IP network, and converted back to T1/E1 signals with high reliability and quality.[6]

14. As one analysis notes, "[t]he introduction of [the BSoD specifications], combined with deep fiber networks, will continue to position cable operators to compete strongly in this [business-services] market space."[7]

15. Cable companies can also provide integrated data/voice-over-IP solutions that utilize IP-compatible customer premises equipment, instead of relying on emulation of TDM (time-division multiplexing) technology. Nevertheless, T1 emulation provides a transitional alternative for providing service to medium-size businesses that want to continue using, for the present, their digital PBXs.

16. Large business customers can be served using high-bandwidth connections and "Metro Ethernet" technology. The application of Metro Ethernet services is to extend the traditional LAN-based Ethernet technology to a switched full-duplex networking model that meets carrier class performance requirements in a metropolitan networking environment. The Metro Ethernet Forum ("MEF") was founded in 2001 and is currently comprised of over 120 telecommunications providers, cable operators, network and device manufacturers and software developers. Its purpose is to promote the deployment and interoperability of carrier-grade Ethernet services through the establishment of implementation

---

[6] *Id.* at 1.

[7] Pierre Fournier, "A Primer on Business Technology: Disruptive Technology Creates Opportunity," October 1, 2006 (http://www.cable360.net/ct/strategy/businesscases/20146.html).

agreements, technical certifications and certification of service providers and products. Cable operators such as Cox Business Services, Optimum Lightpath, RCN and Time Warner have been participating in the MEF, and have numerous Ethernet-based services certified through the MEF program. For those companies, supporting the MEF certification process is a key strategy in their deployment of MEF-based services across a network of customers.[8]

17. Although Metro Ethernet-based services are most commonly delivered over all-fiber networks such as those deployed by the principal MSOs, they can also be delivered over HFC networks. There has been considerable work done in both CableLabs and the MEF to define the architecture and specifications associated with providing Ethernet-based services over HFC networks.[9]

18. While HFC networks can support a wide range of services and business sectors, more sophisticated fiber-based solutions can be provided to business customers over the cable companies' existing fiber-to-the node networks. Given the extensive investment in constructing fiber nodes over the last decade, cable operators can leverage existing fiber deployments by extending fiber from the "fiber node" to the business customer, thus offering high-speed services of 100 Mbs or higher. These solutions utilize standard point-to-point, point-to-multipoint, ring, and WDM technologies similar to those utilized by Verizon and other telephone companies in delivering large Enterprise services over dedicated fiber connections.

19. Fixed wireless technologies such as WiMax offer the ability to extend last-mile connectivity to business customer locations without the need for landline facilities. WiMax technologies are commonly based on IEEE 802.16x standards and can be deployed in a fixed or mobile configuration. While many promoting organizations such as WiMax Forum predict capacities up to 40 Mbs, even a

---

[8] *See* http://metroethernetforum.org/page_loader.php?p_id=33.

[9] *See* http://metroethernetforum.org/PPT_Documents/Access%2005312007.ppt.

conservative estimate of 10 Mbs per channel over a fixed wireless network would support multiple DS1 requirements when applied to business applications.[10]

20. In summary, cable operators have the existing capabilities and products to offer business services across a wide range of applications and networks. These include modifications or overlays to existing HFC networks using T1 emulation services or currently available and certified Ethernet solutions, and extending fiber from existing cable nodes to business customer locations to meet the more sophisticated demand of larger Enterprise customers. In addition, emerging technologies such as fixed wireless provide an alternative to landline facilities to meet the needs of certain customers. Cable MSOs have taken the necessary steps in promoting standardization through industry and standards associations, which has resulted in the widespread availability of products and solutions that are targeted to HFC-based networks.

Michael A. Nawrocki
MICHAEL A. NAWROCKI

Sworn to before me this
14 day of September, 2007

Denice A. Melito
Notary Public

Denice A. Melito
Notary Public
State of Maryland
Prince George's County
My Commission Expires October 1, 2008

[10] *See* http://www.wimaxforum.org/technology/.