June 14, 2012

EX PARTE

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Special Access Rates for Price Cap Local Exchange Carriers
WC Docket No. 05-25

Dear Ms. Dortch:

This is to inform you that on June 12, 2012, the undersigned representing USTelecom met with Angela Kronenberg, Legal Advisor to Commissioner Clyburn, in connection with the proceeding identified above.

During this meeting, I discussed the history of this docket including the rationale relied upon by the Commission in the 1999 Order establishing the triggers and geographic markets for granting pricing flexibility. I explained how USTelecom has repeatedly urged in the past that the Commission pursue mandatory data requests because competitive providers would be unlikely to voluntarily provide data essential to any meaningful examination of the competitiveness of this market. I noted that this has proved to be accurate, as the Commission staff on multiple occasions have identified the failure of competitive providers to respond to the multiple voluntary data requests, including describing this omission as an "obstacle[] in its efforts to gather the data it needs to make an informed decision on special access."[1]

I also explained how, in contrast, ILECs have provided extensive data in this record demonstrating robust competition for the provision of high-capacity services to business customers. In addition to providing data about their own services in response to the prior voluntary data requests, the ILEC industry has provided in the record extensive publicly available analyses concerning the highly competitive nature of the business market and the fact that legacy ILEC special access services are rapidly being displaced by newer, more robust technologies essential to supporting the expanding bandwidth needs of businesses.[2] I specifically reviewed some recent independent analyses detailing the extensive competition being provided by cable companies and other competitive carriers for providing these new,

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[1] Opposition of Federal Communications Commission to Petition for Writ of Mandamus, *In re COMPTEL, et al.*, (D.C. Cir., Oct. 6, 2011) (attached).

[2] *See, e.g.*, USTelecom 2009 Fact Report and 2010 Supplement (filed February24, 2010) (WC Docket 05-25).

higher-capacity services to business customers, as described in my ex parte of April 26, 2012 in this docket.

In light of the foregoing and the staff's acknowledged "dearth" of data in the record demonstrating a problem with the existing triggers, I explained that it would be contrary to any principle of data-driven analysis for the Commission to change the ground rules mid-stream, particularly in a manner that only penalizes those entities that have provided data to the benefit of those which have not. I added that this concern has been exacerbated by the inclusion by staff of thousands of pages of materials into the docket after the proposed order had already been circulated to the Commission.

Finally, I noted that a rush to judgment by the Commission here seemed perplexing given the nature of the pending pricing flexibility petitions currently under review. I explained that the markets for which Phase II pricing flexibility relief were being sought were extremely competitive, with AT&T demonstrating (and not a single commenter challenging) that there were 27 collocated competitors in the San Francisco/Oakland MSA and 17 in the San Antonio MSA. And I pointed out that Windstream's petition is seeking only Phase I relief in two of the three MSAs – thus, the proposed order would appear only to prohibit Windstream from *lowering* special access prices in these markets.

Pursuant to Commission rules, please include this letter in the docket identified above.

Sincerely,

Glenn T. Reynolds

c: Angela Kronenberg

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

In re COMPTEL, *et al.*,	)	No. 11-1262
	)	
Petitioners.	)	

OPPOSITION OF FEDERAL COMMUNICATIONS COMMISSION TO PETITION FOR WRIT OF MANDAMUS

A group of telecommunications carriers and their trade associations, along with several groups representing users of telecommunications services, have jointly filed a petition for writ of mandamus. Petitioners ask the Court to direct the Federal Communications Commission ("FCC" or "Commission") to complete a rulemaking regarding "special access" telecommunications services and to issue new rules within six months, even though the Commission is still in the process of gathering data it needs to assess whether its special access rules should be revised.

Petitioners have failed to carry their heavy burden to justify the extraordinary remedy of mandamus. Contrary to their claim, the FCC has not unreasonably delayed completion of its special access rulemaking. That proceeding involves intensely fact-bound issues. Notwithstanding petitioners' undeveloped assertions to this Court, those issues cannot adequately be addressed until the Commission itself compiles an evidentiary record that is sufficient to evaluate current conditions in the special access market. The agency has diligently sought to collect the data it needs.

In particular, in the past two years, the Commission has: (1) issued a November 2009 request for comment on the appropriate analytical framework for assessing the effectiveness of the current special access rules; (2) conducted a workshop in July 2010 regarding the analytical framework and the sort of data required to evaluate the special access market; (3) issued an October 2010 public notice requesting the submission of special access data; and (4) released another public notice in September 2011 requesting additional data concerning the rates, terms, and conditions for special access services. While the agency has made progress toward building a sufficient evidentiary record, its efforts have been impeded by the failure of some parties to produce information clearly documenting their claims that special access rates are unreasonable.

Particularly where (as here) there is no statutory deadline for agency action, the Commission has broad discretion to order its proceedings and to allocate its scarce resources by prioritizing other pressing policy objectives that, in the agency's considered judgment, merit more immediate attention. The FCC has reasonably exercised that discretion by, for example, devoting substantial resources to reforming its universal service and intercarrier compensation programs, even as it continues to examine its special access rules.

In any event, even if petitioners could demonstrate unreasonable delay in this case – and they cannot – they are not entitled to the extraordinary remedy of

mandamus for a separate and independent reason. Petitioners have other adequate alternative remedies under the Communications Act, including review of newly filed special access tariffs under 47 U.S.C. § 204, recovery of damages in federal district court under 47 U.S.C. §§ 206 and 207, and the administrative complaint process established by 47 U.S.C. § 208.

The petition for mandamus should be denied.

BACKGROUND

A. Special Access Services

To complete the transmission of an interstate telephone call, a telecommunications carrier "must have 'access' to the local networks at both the originating and receiving end of the call." *WorldCom, Inc. v. FCC,* 238 F.3d 449, 453 (D.C. Cir. 2001). Part 69 of the FCC's rules establishes two basic categories of access services: switched access and special access. 47 C.F.R. Part 69. Unlike switched access, which uses local exchange switches to route originating and terminating interstate telecommunications, special access employs dedicated facilities that run between the end user and the carrier's network or between two discrete end user locations. *Access Charge Reform,* 14 FCC Rcd 14221, 14226 ¶ 8 (1999) ("*Pricing Flexibility Order*"), *petitions for review denied, WorldCom,* 238 F.3d 449. "Most users of special access services are companies with high call volumes." *WorldCom,* 238 F.3d at 453. Among other things, "[s]pecial access

circuits connect wireless towers to the core network" and sometimes provide "the critical broadband link . . . between a small town and the nearest Internet point of presence." FCC, *Connecting America: The National Broadband Plan* 143 (2010), available at http://download.broadband.gov/plan/national-broadband-plan.pdf.

For many years, incumbent local exchange carriers ("ILECs") were the sole providers of access services. In the 1980s, however, competitive access providers ("CAPs") began to challenge the ILEC monopolies by offering limited end-to-end special access services over their own transport facilities. *See Expanded Interconnection with Local Telephone Company Facilities*, 7 FCC Rcd 7369, 7373 ¶ 4 (1992), *on recon.*, 8 FCC Rcd 127 (1993), *rev'd in part and remanded in part, Bell Atlantic Tel. Cos. v. FCC,* 24 F.3d 1441 (D.C. Cir. 1994). Under a 1996 amendment to the Communications Act, CAPS are entitled to install (or "collocate") their equipment at ILEC facilities. 47 U.S.C. § 251(c)(6).

B. Federal Price Cap Regulation Of Access Services

Historically, ILECs and other telecommunications carriers have been subject to rate-of-return regulation, which "is based directly on cost." *National Rural Telecom Ass'n v. FCC,* 988 F.2d 174, 177 (D.C. Cir. 1993); *see also WorldCom*, 238 F.3d at 453. In October 1990, the FCC adopted a new framework for regulating the largest ILECs' rates – an incentive-based system that imposes "caps" on the aggregate prices that those carriers charge for certain services in a

given area. *WorldCom,* 238 F.3d at 453 (citing 47 C.F.R. §§ 61.41-61.49). "Price cap regulation is intended to provide better incentives to the carriers than rate of return regulation, because the carriers have an opportunity to earn greater profits if they succeed in reducing costs and becoming more efficient." *Bell Atlantic Tel. Cos. v. FCC,* 79 F.3d 1195, 1198 (D.C. Cir. 1996).

For purposes of setting price caps, the Commission grouped different access services into "baskets." *See WorldCom*, 238 F.3d at 453. "For each basket, the Commission established a maximum price, called the price cap index." *Bell Atlantic*, 79 F.3d at 1198. Under the price cap system, "companies are relatively free to set their own prices so long as they remain below the cap." *WorldCom*, 238 F.3d at 454.

Carriers that are classified as "dominant" carriers are subject to price cap regulation. These price cap LECs must comply with tariff requirements, publishing rate changes before they go into effect. *WorldCom,* 238 F.3d at 454 (citing 47 U.S.C. §§ 203(a), 204(a)).

C. The *Pricing Flexibility Order*

In August 1999, the Commission adopted rules under which "price cap LECs would receive pricing flexibility in the provision of interstate access services as competition for those services develops." *Pricing Flexibility Order*, 14 FCC Rcd at 14225 ¶ 2. Those rules "granted immediate pricing flexibility [to price cap

LECs] for some services." *WorldCom*, 238 F.3d at 454. They also provided for future pricing flexibility to be implemented in two phases. "In Phase I, LECs may offer contract tariffs and volume and term discounts, while remaining subject to some price cap rules and tariff requirements." *Id.* at 455. "In Phase II, LECs are given greater freedom to raise and lower rates outside of price cap regulation." *Id.* at 456.

To obtain pricing flexibility under Phase I or Phase II, a price cap LEC must file a petition demonstrating that certain competitive "triggers" have been met within a particular Metropolitan Statistical Area ("MSA"). The triggers are based on the extent to which competitive carriers have collocated their facilities on ILEC premises within the MSA. "The triggers measure market competition based upon investments in infrastructure by potential competitors. . . . [T]he more relief sought, the higher the trigger is set – that is, a greater level of investment by competitors is required." *WorldCom,* 238 F.3d at 455.

"In order to obtain Phase I relief" for special access services, an ILEC "must show collocation in fifteen percent of wire centers within the MSA in which relief is sought, or in wire centers accounting for at least thirty percent of revenues for services in question." *WorldCom,* 238 F.3d at 455-56. To qualify for Phase II relief, an ILEC must demonstrate more extensive deployment of competitive facilities: "collocation in fifty percent of wire centers within the MSA in which

relief is sought or in wire centers accounting for at least sixty-five percent of revenues for services in question." *Id.* at 456. In addition, before an ILEC can obtain pricing flexibility under either Phase I or Phase II, "at least one competitor must rely on transport facilities provided by a non-incumbent LEC in each wire center relied on in the applicant LEC's petition." *Id.*

The FCC acknowledged that its pricing flexibility rules could potentially allow for "Phase II relief before the manifestation of actual competitive alternatives for interstate access service customers." *WorldCom,* 238 F.3d at 456. Nonetheless, the Commission concluded that "the costs of delaying regulatory relief outweigh the potential costs of granting it before [competitive carriers] have a competitive alternative for each and every end user." *Id.* (quoting *Pricing Flexibility Order*, 14 FCC Rcd at 14297 ¶ 144). The Commission recognized that its selection of pricing flexibility triggers was "not an exact science," but rather a policy determination "based on our agency expertise, our interpretation of the record before us in this proceeding, and our desire to provide a bright-line rule to guide the industry." *Pricing Flexibility Order*, 14 FCC Rcd at 14276 ¶ 96.

On review, this Court rejected various challenges to the FCC's pricing flexibility rules. *WorldCom*, 238 F.3d at 457-64. It held that the Commission acted reasonably in using collocation as a proxy for competition. *Id.* at 458-60.

The Court also held that the agency based its collocation triggers on reasonable predictive judgments that were entitled to deference. *Id.* at 461-62.

D. The CALLS Plan

In May 2000, the Commission adopted "an integrated interstate access reform and universal service proposal" made by the Coalition for Affordable Local and Long Distance Service ("CALLS"), a group of local and long-distance telecommunications carriers. *Access Charge Reform*, 15 FCC Rcd 12962, 12964 ¶ 1 (2000) ("*CALLS Order*"), *aff'd in part and remanded in part, Texas Office of Public Utility Counsel v. FCC*, 265 F.3d 313 (5th Cir. 2001). The CALLS plan was a five-year transitional mechanism "designed to further accelerate the development of competition in the local and long-distance telecommunications markets." *Id.* at 12965 ¶ 4. Among other things, the CALLS plan created "a separate special access basket" for purposes of price cap regulation. *Id.* at 13033 ¶ 172.

The *CALLS Order* gave price cap LECs a choice. They could either "subscribe to the CALLS [plan] for its full five-year term" or "submit a cost study based on forward-looking economic costs." *CALLS Order*, 15 FCC Rcd at 12984 ¶ 59. "All price cap carriers opted for the CALLS plan." *Special Access Rates for Price Cap Local Exchange Carriers*, 20 FCC Rcd 1994, 2000 ¶ 14 (2005) ("*Special Access NPRM*").

Although the CALLS plan "was intended to run until June 30, 2005," it remains in place and will continue in effect "until the Commission adopts a subsequent plan" to replace CALLS. *Special Access NPRM*, 20 FCC Rcd at 1995 ¶ 2.

E. AT&T's Petition For Rulemaking

In October 2002, AT&T filed a petition for rulemaking "essentially requesting that the Commission revoke the pricing flexibility rules and revisit the CALLS plan as it pertains to the rates that price cap LECs . . . charge for special access services." *Special Access NPRM*, 20 FCC Rcd at 2002 ¶ 19.[1] AT&T contended that "the predictive judgment at the core of the *Pricing Flexibility Order* has not been confirmed by marketplace developments," and that ILECs were charging unreasonably high rates for special access services. *Id.* at 2003 ¶ 19. In addition to seeking rule changes, AT&T requested interim relief while the rulemaking was pending. It asked the Commission to impose a moratorium on pricing flexibility and to reduce all special access charges to levels that would produce an 11.25 percent rate of return. *Id.*

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[1] At that time, AT&T was a purchaser of special access services and a competitor to the ILECs. In 2005, AT&T merged with SBC, an ILEC. As currently constituted, AT&T is both an ILEC and an interexchange carrier, and thus is both a provider and a purchaser of special access services.

The Commission's staff invited comment on AT&T's rulemaking petition.[2] Price cap LECs opposed AT&T's petition and disputed its claims. In particular, they asserted that "there is robust competition in the special access market," and that the existing special access rates were "reasonable and therefore lawful." *Special Access NPRM*, 20 FCC Rcd at 2003 ¶ 20.

In November 2003, AT&T filed with this Court a petition for writ of mandamus. It asked the Court to direct the Commission to act on AT&T's rulemaking petition and to grant the interim relief sought. *Special Access NPRM*, 20 FCC Rcd at 2003 ¶ 21. In October 2004, the Court held the matter in abeyance and directed the Commission to provide status reports on December 1, 2004 and February 1, 2005. *Id.* at 2003-04 ¶ 21.

F. The *Special Access NPRM*

On January 31, 2005, the Commission released a notice of proposed rulemaking "to seek comment on the interstate special access regime that we should put in place post-CALLS." *Special Access NPRM*, 20 FCC Rcd at 2004 ¶ 22. The Commission specifically requested comment "on whether, as part of that regime, we should maintain, modify, or repeal the Commission's pricing flexibility rules." *Id.* Insofar as AT&T's petition requested a new special access rulemaking,

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[2] *Wireline Competition Bureau Seeks Comment on AT&T's Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, 17 FCC Rcd 21530 (2002).

the Commission granted the petition. *Id.* at 2042 ¶ 152. The agency also incorporated into this proceeding "the record already compiled in response to" AT&T's petition. *Id.* at 1997 ¶ 5.

At the same time it commenced the special access rulemaking, the FCC denied AT&T's request for interim relief. It found that "the evidence submitted by AT&T in its petition" was not "sufficient to justify the requested relief at this time." *Special Access NPRM*, 20 FCC Rcd at 2035 ¶ 129.[3]

Shortly after the Commission notified the Court of the release of the *Special Access NPRM*, the Court dismissed AT&T's mandamus petition as moot. *In re AT&T Corp.*, 2005 WL 283198 (D.C. Cir. Feb. 4, 2005).

G. Subsequent Developments

In July 2007, the Commission invited interested parties to update the record in the special access rulemaking in light of a number of recent developments in the industry, including several "significant mergers and other industry consolidations," "the continued expansion of intermodal competition in the market for telecommunications services," and "the release by GAO [the Government Accountability Office] of a report summarizing its review of certain aspects of the

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[3] In the *Special Access NPRM*, the Commission sought comment "on what interim relief, *if any*, is necessary to ensure" that "special access rates remain reasonable" while the Commission considered "what regulatory regime will follow the CALLS plan." 20 FCC Rcd at 2036 ¶ 131 (emphasis added). Specifically, the Commission sought comment on a proposal to make interim rate adjustments to account for increased productivity in the provision of special access services. *Id.*

market for special access services." *Parties Asked to Refresh Record in the Special Access Notice of Proposed Rulemaking*, 22 FCC Rcd 13352, 13352-53 (2007).

While the special access rulemaking was pending, the FCC also addressed special access issues in several other proceedings. In two orders issued in October 2007, the agency granted petitions filed by AT&T, Embarq, and Frontier under 47 U.S.C. § 160 seeking FCC forbearance from enforcement of dominant carrier and tariff filing requirements with respect to enterprise broadband special access services (*i.e.*, high-speed telecommunications services for businesses). *Petition of the Embarq Local Operating Companies for Forbearance,* 22 FCC Rcd 19478 (2007); *Petition of AT&T Inc. for Forbearance,* 22 FCC Rcd 18705 (2007). This Court affirmed those forbearance orders. *Ad Hoc Telecomm. Users Comm. v. FCC,* 572 F.3d 903 (D.C. Cir. 2009). In August 2008, the Commission granted Qwest's petition for similar relief from regulation of enterprise broadband special access. *Qwest Petition for Forbearance*, 23 FCC Rcd 12260 (2008). The Court dismissed a petition for review of that forbearance grant. *Ad Hoc Telecomm. Users Comm. v. FCC*, 2009 WL 2461594 (D.C. Cir. Aug. 7, 2009) (granting motion for voluntary dismissal).

During the summer of 2009, in the wake of the 2008 Presidential election, the Senate confirmed a new Chairman of the 5-member Commission and two new Commissioners.

In November 2009, the Commission sought comment on the appropriate analytical framework for examining the issues that the *Special Access NPRM* raised. *Parties Asked to Comment on Analytical Framework Necessary to Resolve Issues in the Special Access NPRM*, 24 FCC Rcd 13638 (2009) ("*Analytical Framework Public Notice*").

In July 2010, the FCC's Wireline Competition Bureau held a staff workshop to gather further input from interested parties on the analytical framework the Commission should use – and the data it should collect – to evaluate whether the current special access rules are working as intended. *Wireline Competition Bureau Announces July 19, 2010 Staff Workshop to Discuss the Analytical Framework for Assessing the Effectiveness of the Existing Special Access Rules*, 25 FCC Rcd 8458 (2010) ("*Staff Workshop Public Notice*").

In October 2010, the Wireline Competition Bureau issued a public notice inviting the public to submit data to assist the Commission in evaluating the issues that the *Special Access NPRM* raised. *Data Requested in Special Access NPRM*, 25 FCC Rcd 15146 (2010) ("*First Data Request Public Notice*"). Explaining that data "would need to be reviewed" before the Commission could address the issues raised by the proceeding, *id.* at 15146, the Bureau asked that the requested data be submitted on or before January 27, 2011. *Id.* at 15147. It also noted that while it

continued to develop its analytical framework, it would "ask for additional voluntary submissions of data in a second public notice." *Id.*

On September 19, 2011, the Bureau issued its second public notice requesting the submission of special access data. *Competition Data Requested in Special Access NPRM*, DA 11-1576 (released Sept. 19, 2011) ("*Second Data Request Public Notice*") (Attachment A). The Bureau asked for detailed data on special access prices, revenues, and expenditures, as well as the nature of terms and conditions for special access services. It requested that the data be submitted to the Commission by December 5, 2011.

While the Commission has made progress in its data-gathering efforts, the vast majority of the service provider members of the principal petitioner here (the trade association COMPTEL) did not provide any data in response to the agency's October 2010 request.[4]

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[4] The member list on COMPTEL's website includes approximately 90 "service provider" members. *See* http://www.comptel.org/memberlist.asp?contentid=2109. According to the Commission's records, only seven of those member carriers – 360networks, Cbeyond, RCN, Sprint, TDS Metrocom, TelePacific Communications, and tw telecom – provided special access data in response to the agency's October 2010 request.

ARGUMENT

PETITIONERS HAVE NOT CARRIED THEIR BURDEN OF SHOWING THAT THEY HAVE A CLEAR AND INDISPUTABLE RIGHT TO THE EXTRAORDINARY REMEDY OF MANDAMUS

"Mandamus is a 'drastic' remedy available only in 'extraordinary situations.'" *Oglala Sioux Tribe of Pine Ridge Indian Reservation v. U.S. Army Corps of Eng'rs*, 570 F.3d 327, 333 (D.C. Cir. 2009) (quoting *Kerr v. U.S. Dist. Court for N. Dist. of Cal.*, 426 U.S. 394, 401 (1976)). "Mandamus is available only if: (1) the plaintiff has a clear right to relief; (2) the defendant has a clear duty to act; and (3) there is no other adequate remedy available to plaintiff." *Fornaro v. James,* 416 F.3d 63, 69 (D.C. Cir. 2005) (quoting *Power v. Barnhart*, 292 F.3d 781, 784 (D.C. Cir. 2002)). "The party seeking mandamus has the burden of showing that its right to issuance of the writ is clear and indisputable." *Power*, 292 F.3d at 784 (internal quotation marks omitted); *see also Gulfstream Aerospace Corp. v. Mayacamas Corp.,* 485 U.S. 271, 289 (1988). Because petitioners have failed to carry that heavy burden here, the petition should be denied.

I. The FCC Has Reasonably And Responsibly Sought To Compile A Sufficient Evidentiary Record For Purposes Of Resolving The Complex Question Whether Its Current Special Access Rules Ensure Just And Reasonable Rates.

Petitioners contend that the Court should issue a writ of mandamus because the FCC has unreasonably delayed action in its pending special access proceeding. Given the highly fact-bound nature of the issues raised by that proceeding –

including the pricing issues that must be resolved based on a full evidentiary record – there has been no unreasonable delay, much less an "egregious" delay. *In re Monroe Commc'ns Corp.*, 840 F.2d 942, 945 (D.C. Cir. 1988) (the "extraordinary remedy" of mandamus is "warranted only when agency delay is egregious").

In assessing whether an "agency's delay is so egregious as to warrant mandamus," the Court has declared that "the time agencies take to make decisions must be governed by a 'rule of reason.'" *Telecomm. Research & Action Ctr. v. FCC*, 750 F.2d 70, 79-80 (D.C. Cir. 1984) ("*TRAC*"). This "rule of reason" cannot be applied "in the abstract, by reference to some number of months or years beyond which agency inaction is presumed to be unlawful." *Mashpee Wampanoag Tribal Council v. Norton*, 336 F.3d 1094, 1102 (D.C. Cir. 2003). "Resolution of a claim of unreasonable delay is ordinarily a complicated and nuanced task requiring consideration of the particular facts and circumstances before the court." *Id.* at 1100. Thus, before determining whether an agency's delay is unreasonable, the Court must consider (among other things) "the complexity of the task at hand" and "the resources available to the agency." *Id.* at 1102. These factors weigh decisively against a finding of unreasonable delay in this case.

As a threshold matter, petitioners are wrong when they claim that "[t]here has been no resolution" of AT&T's 2002 petition for rulemaking. Petition at 21; *see also id.* (alleging a "near-decade of inaction"). To the contrary, the FCC acted

on that petition when it initiated the special access rulemaking proceeding and denied AT&T's request for interim relief in 2005. *See* Background, Section F, *supra*. In the *Special Access NPRM*, the Commission explicitly stated that AT&T's petition for rulemaking was "GRANTED to the extent specified herein and otherwise [was] DENIED." *Special Access NPRM*, 20 FCC Rcd at 2042 ¶ 152. This Court recognized that the agency had taken action when it dismissed AT&T's mandamus petition as moot in 2005. *See id.*[5]

In any event, petitioners cannot show that the FCC unreasonably delayed action in this case. Their claim of unreasonable delay rests on a fundamentally flawed premise. Petitioners assert that the FCC "has known for nearly a decade that its predictions in the *Pricing Flexibility Order* were wrong." Petition at 14. To the contrary, the FCC has yet to draw any firm conclusions about the accuracy of its predictions regarding special access. Instead, it is in the process of collecting and analyzing data to ascertain how the pricing flexibility rules have affected the special access market.

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[5] Similarly, there is no basis for petitioners' suggestion that the FCC's representations to this Court in the AT&T mandamus litigation were misleading. *See* Petition at 11, 21. The agency never represented to the Court that a special access rulemaking would be completed within a specified timeframe. Rather, the Commission informed the Court in July 2004 that it expected to act on AT&T's rulemaking petition "in the near future" (*In re AT&T Corp.*, D.C. Cir. No. 03-1397, FCC Br. at 3), and it did so by issuing its *Special Access NPRM* in January 2005.

Petitioners maintain that a 2006 report by the Government Accountability Office "confirmed" that the predictions on which the FCC based its pricing flexibility rules were wrong. Petition at 14. But the GAO did not reach any such definitive conclusion.[6] Instead, the GAO Report confirms the FCC's need for additional data as it considers reform of its special access rules. "[I]n order to better meet its regulatory responsibilities," the GAO explained, the FCC "needs a more accurate measure of effective competition and needs to collect more meaningful data." GAO Report at 15. The Commission is now taking the very action that the GAO recommended.

Petitioners maintain that consumers are paying unreasonably high prices for special access under the pricing flexibility rules. Petition at 15-16. But the ILECs hotly contest petitioners' basic premise that special access rates have increased. Indeed, they contend that special access rates have steadily *declined* since the introduction of pricing flexibility.[7]

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[6] The GAO merely noted that its analysis of the limited data available at the time "*suggests* that [the] FCC's predictive judgment – that MSAs with pricing flexibility have sufficient competition – *may* not have been borne out." GAO, *Telecommunications: FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services*, GAO-07-80, at 42 (Nov. 2006) (emphasis added) ("GAO Report"), available at www.gao.gov/new.items/d0780.pdf.

[7] *See, e.g.*, Reply Comments of AT&T Inc., WC Docket No. 05-25, Feb. 24, 2010, at 4 ("Over the decade that [the pricing flexibility] rules have been in place, the prices that special access customers actually pay have decreased dramatically,

Even one of the reports on which petitioners rely (Petition at 14) notes that the available special access pricing data "do not support any clear conclusions about price trends. Some data suggest rising prices, while other data suggest declining prices. Data quality could well be the reason for these ambiguities." Peter Bluhm & Robert Loube, National Regulatory Research Institute, *Competitive Issues in Special Access Markets* 67 (Jan. 21, 2009).

Lacking sufficient data to resolve this fundamental dispute, the Commission appropriately recognized that it should make no decisions about revising its special access rules before it has compiled and analyzed an adequate evidentiary record. In the last two years, since Chairman Genachowski's arrival at the agency, the Commission has taken a number of steps to build that record.

In November 2009, the agency sought comment on the appropriate analytical framework for examining the issues raised by the special access rulemaking. *Analytical Framework Public Notice*, 24 FCC Rcd at 13638-44. In

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output has risen sharply, both incumbents and their competitors have invested billions in new facilities," and "innovation has increased"); Reply Comments of Verizon and Verizon Wireless, WC Docket No. 05-25, Feb. 24, 2010, at 6 ("the prices customers pay for special access services have followed an overall downward trend"); Declaration of Michael D. Topper on behalf of Verizon and Verizon Wireless, WC Docket No. 05-25, Jan. 19, 2010, at 37 ("Evidence presented in this proceeding indicates that special access prices have been steadily declining since pricing flexibility was introduced," and that the quantity of special access services "has increased significantly over time."); Declaration of Dennis W. Carlton and Hal S. Sider on behalf of AT&T Inc., WC Docket No. 05-25, Jan. 19, 2010, at 30 (citing evidence that "average special access prices have fallen substantially in areas where full Phase II pricing flexibility has been granted").

July 2010, Commission staff held a workshop to obtain further input from interested parties regarding the analytical framework and the sort of data that the Commission would need to evaluate whether the current special access rules are working as intended. *Staff Workshop Public Notice*, 25 FCC Rcd at 8458-59.[8] In October 2010, the FCC's Wireline Competition Bureau invited the submission of data to help the agency evaluate the current special access regime. *First Data Request Public Notice*, 25 FCC Rcd at 15146-64. And just last month, the Bureau requested that before the end of 2011, interested parties submit detailed data concerning the rates, terms, and conditions for special access services. *Second Data Request Public Notice*, DA 11-1576 (Attachment A).

As Chairman Genachowski explained in testimony to Congress, he found "the paucity of data that the FCC had" when he arrived at the Commission "very troubling," and he saw "no point to doing something in this area that's not based on a record, that's not based on facts and data, and that wouldn't be upheld in court." Transcript of Hearing of the Communications & Technology Subcommittee of the House Energy & Commerce Committee, May 13, 2011, at 40 (Mandamus Petition, Tab 13); *see also* Letter from FCC Chairman Julius

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[8] A transcript of the staff workshop can be found on the FCC's website at http://reboot.fcc.gov/c/document_library/get_file?uuid=f01ad781-6dd7-4ace-a7fc-bc296dc88315&groupId=19001. As the transcript makes clear, the issues raised by this proceeding are complicated, and economists disagree about the appropriate framework for analyzing the special access market.

Genachowski to Congressman Mike Doyle, August 19, 2011 (Attachment B) (noting that while "the data we have collected so far will help us to understand how best to move forward," the special access proceeding presents "a number of difficult issues" for which "there are no quick fixes").

Even one of the parties that advocates special access reform has acknowledged that the FCC will need to obtain and analyze more data before it can determine the appropriate course of action in this proceeding. In March 2011, Level 3 Communications told the Commission that "the competitive significance" of special access contract tariffs "is not ascertainable without further data." Letter from Erin Boone, Level 3, to Marlene H. Dortch, FCC, WC Docket No. 05-25, March 7, 2011, at 2 (Attachment C). And in June 2011, representatives of Level 3 discussed with FCC staff "the types of pricing data concerning tariffed and non-tariffed special access purchases by Level 3 that might be available and useful to enable the Commission to more fully evaluate competition relating to such purchases." Letter from Erin Boone, Level 3, to Marlene H. Dortch, FCC, WC Docket No. 05-25, June 23, 2011, at 1 (Attachment D).

Unfortunately, the Commission has faced obstacles in its efforts to gather the data it needs to make an informed decision on special access. For instance, in response to the FCC's October 2010 request for special access data, fewer than 10 percent of petitioner COMPTEL's service provider members (7 of approximately

90) submitted data concerning their experience in the special access market. *See* note 4, *supra*.

The Commission is actively engaged in the process of gathering and analyzing data that might (or might not) bear out petitioners' assertions about special access pricing. This orderly and responsible administrative process should not be disrupted while the Commission is making steady progress.

"Absent some unreasonable delay or significant prejudice to the parties, the Commission cannot be said to abuse its discretion merely by adopting procedures and timetables which it considers necessary to effective treatment of complex and difficult problems." *Telecomm. Resellers Ass'n v. FCC,* 141 F.3d 1193, 1196 (D.C. Cir. 1998) (quoting *GTE Serv. Corp. v. FCC*, 782 F.2d 263, 274 (D.C. Cir. 1986)). Where (as here) an agency confronts complex and difficult questions, this Court has held that it is not unreasonable for the agency to take a number of years to resolve thorny issues. *See, e.g., Her Majesty the Queen in Right of Ontario v. EPA,* 912 F.2d 1525, 1534 (D.C. Cir. 1990) (the EPA's delay of "more than nine years" in resolving an issue was not unreasonable given "the unusual complexity of the factors facing the agency"). In light of these precedents, and in view of the Commission's diligent and conscientious efforts to gather the data it needs to resolve the issues presented by the special access rulemaking, the Court should deny the mandamus petition.

Economic Policy Vignette 2012-6-4

Regulation in financial translation
The importance of current data in the FCC's special access proceeding

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CENTER FOR BUSINESS & PUBLIC POLICY

Executive Summary

The importance of current data in the special access proceeding

- Despite two comprehensive data requests and a workshop, the Federal Communications Commission (FCC) has said that it lacks adequate data to address special access pricing.

- There are conflicting claims in the docket, with retail customers asking for lower prices and wholesale customers claiming that they can't compete even now.

- Many claims in the record rely on 2007 ARMIS data, and on the GAO and NRRI reports. All of these were flawed even at the time and are obsolete now.

- Whatever the profitability of the ILECs might have been in 2007, their economics have deteriorated sharply since then, as they have lost subscribers in various market segments.

- The market for IP and Ethernet for enterprises and for wireless carriers is highly competitive.

- Both wireless and wholesale customers make it clear in their own presentations to investors that their networks are based on IP and Ethernet over fiber. They are likely to reduce use of DS-1 and DS-3 circuits sharply, if not to abandon them altogether.

- Thus, even at current prices, the profitability of the ILECs' DS-1 and DS-3 services will be reduced in 2012 and 2013 as a result of customer-penetration decreases.

- Before the FCC acts on special access, it needs data that will enable it to understand the market, particularly the fiber-based IP and Ethernet market that is evolving to replace the obsolete TDM world.

What is special access and how is it priced?

Special access is non-switched--i.e., dedicated--access bought to satisfy communications needs such as large volume, or higher-than-usual network security or reliability. Communications links are sold individually or in various groupings. The links for a single purchase may be in one geographic area, or distributed around the U.S. or the globe. The customers may be enterprises or they may themselves be network providers of various sorts, seeking to supplement their own networks. Enterprises—financial institutions are typical—are large retail customers who seek a complex and secure network able to handle high volumes at the lowest possible price. Customers who are themselves network providers may be supplementing their networks for their own use—e.g. wireless providers seeking backhaul from their cell towers. CLECs may use special access from ILECs to supplement their own networks, to resell as part of their own special access offerings to the retail or wireless market.

Special access pricing is regulated under three levels of flexibility, depending on the degree of competition in a particular MSA, measured by the level of CLEC-collocation in central offices in the MSA.[1] These prices are available to both retail and wholesale customers:

- Markets where ILECs offer only price-capped, tariffed "list prices"--i.e. rates available to all customers regardless of volume or term.

- Phase-I flexibility markets, in which ILECs can also offer tariffed discount plans. The discounts are offered via customized contracts which discount off the "list prices" based on term and/or volume commitments. The contracts are filed with the FCC and are also available to anyone who meets the specified contract terms and conditions. In Phase-I MSAs, ILECs can only lower their rates.

- In MSAs with Phase-II flexibility, ILECs can either lower or raise rates. The "new list" prices must be filed with the FCC. Commercial contracts providing discounts off the new list prices can be offered.

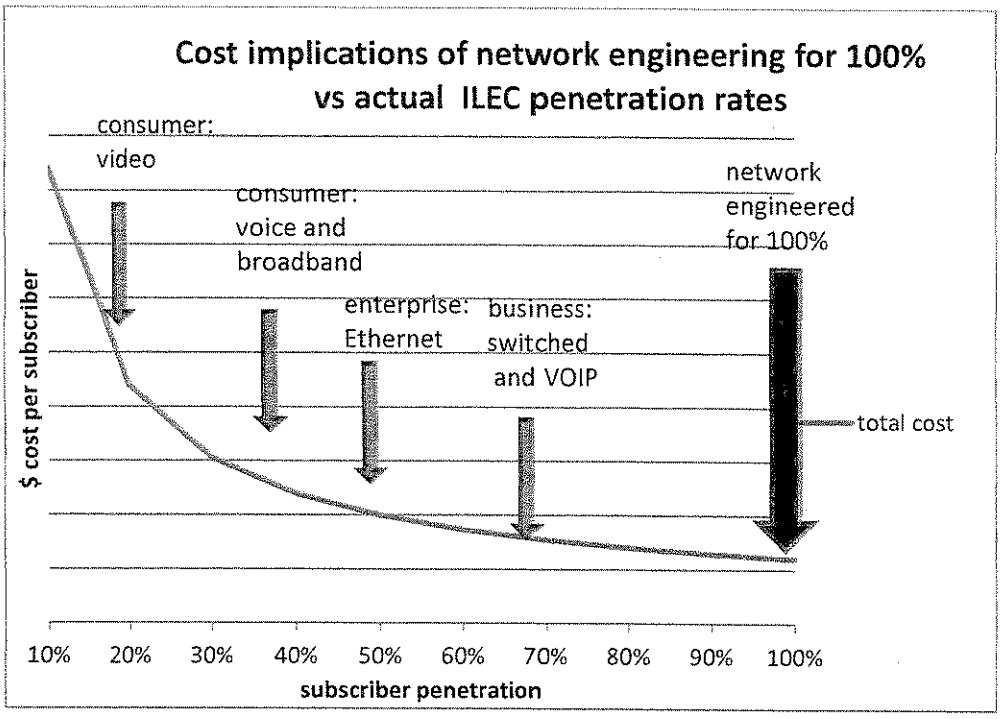
DS-1 and DS-3 links are the particular special access facilities whose pricing is in dispute in this proceeding. TDM-based and carrying 1.5 Mbps and 45 Mbps respectively, these are relatively low-capacity circuits based on an outmoded technology that is rapidly being displaced by much-higher capacity Gigabit-Ethernet or OCn links. One of the questions in this proceeding is whether DS-1s and DS-3s are overpriced, or whether they are now underpriced relative to the industry's current cost structure. The other key question is whether these obsolete facilities' survival will be artificially lengthened by pricing actions that discourage investment in Gigabit-Ethernet.

The economics of fixed-cost networks:

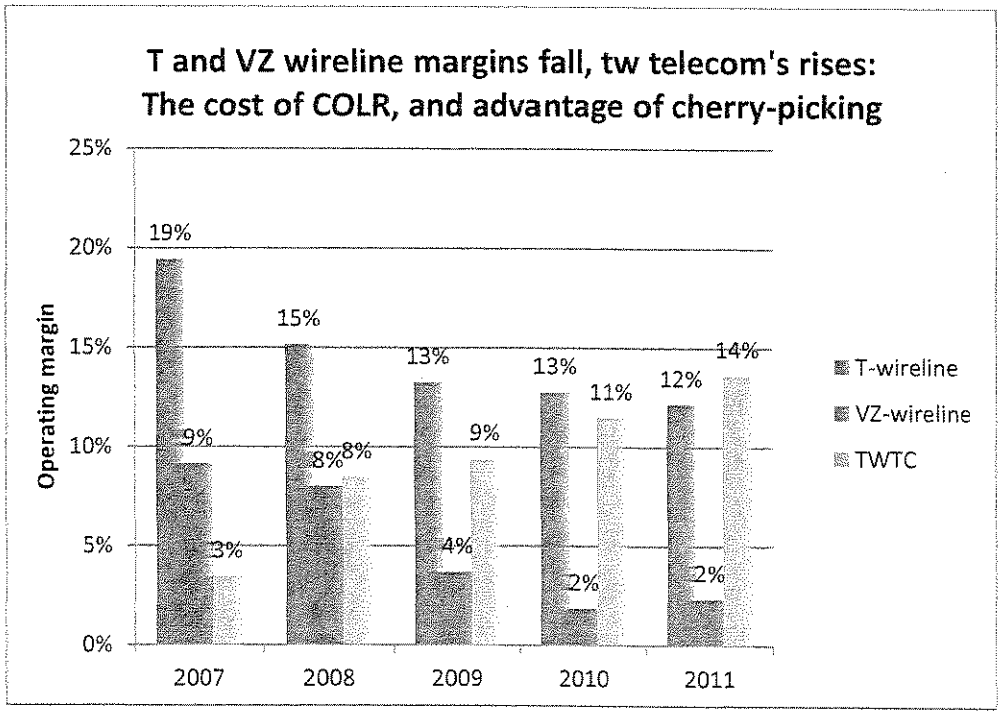
In telecommunications networks, costs are largely fixed and shared. As customer penetration increases, that provides helpful scale economies. However, when customer penetration falls, those economies are reversed and the cost-per-remaining-subscriber increases, until it becomes asymptotic at low penetration rates. That effect is likely to be particularly marked if COLR obligations and inflexible service-quality standards force a network operator to stand ready to serve 100% of its original market at the original standards.[2]

[1] FCC, Fifth Report and Order and Further Notice of Proposed Rulemaking in CC Docket 96-262, August 5, 1999. Also see Mayo pp. 39-41 and GAO pp. 2-6.

[2] Sources for all figures in the executive summary are provided in the body of the text.



This has numerous regulatory implications. It cries out for a rethinking of the feasibility of maintaining COLR obligations, for one thing. In the context of the special access proceeding, it means that any cost-data the FCC relies on has to be current. Specifically, the 2007 ARMIS data that is frequently

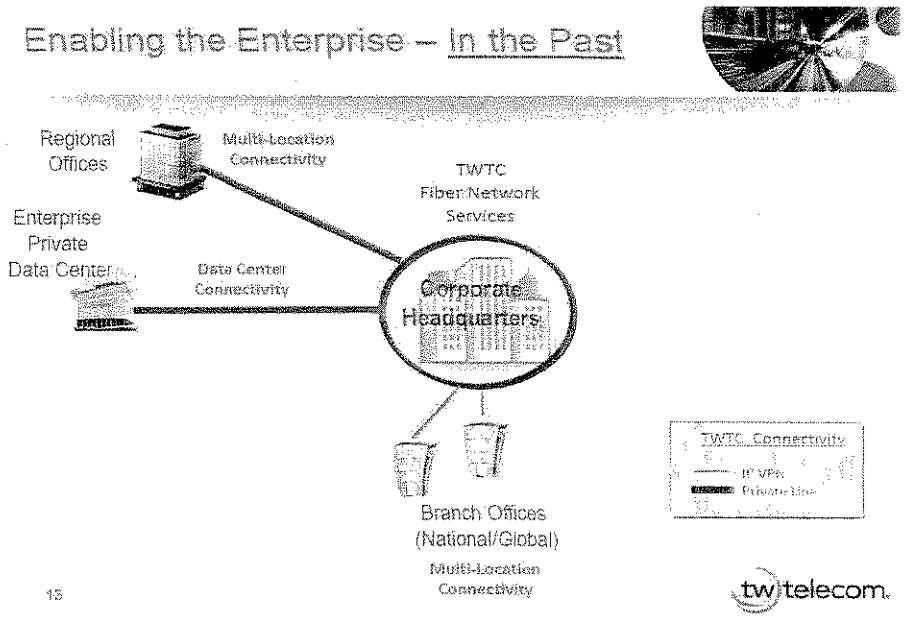


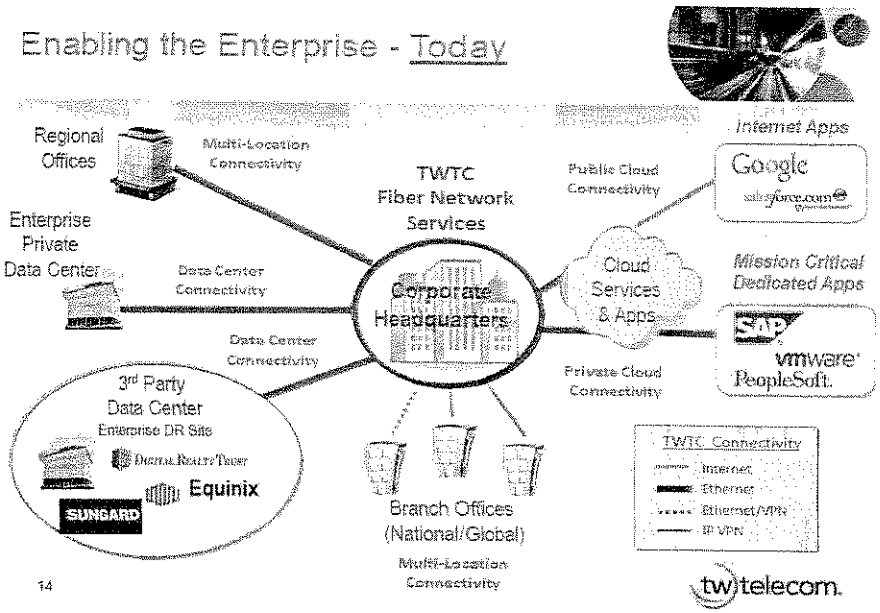
referenced in the record is likely to greatly overstate the current profitability of the ILECs in total, and the allocated-profitability of special access in particular.

As the figure above shows, AT&T (T) and Verizon's (VZ) wireline-operations' profitability has decreased sharply since 2007. Given that costs are shared between services both in reality and in ARMIS, the precipitous decline in subscriber-penetration in the consumer market as well as the decline in business-subscriber-penetration is likely to have resulted in lower profitability for various services, including special access.

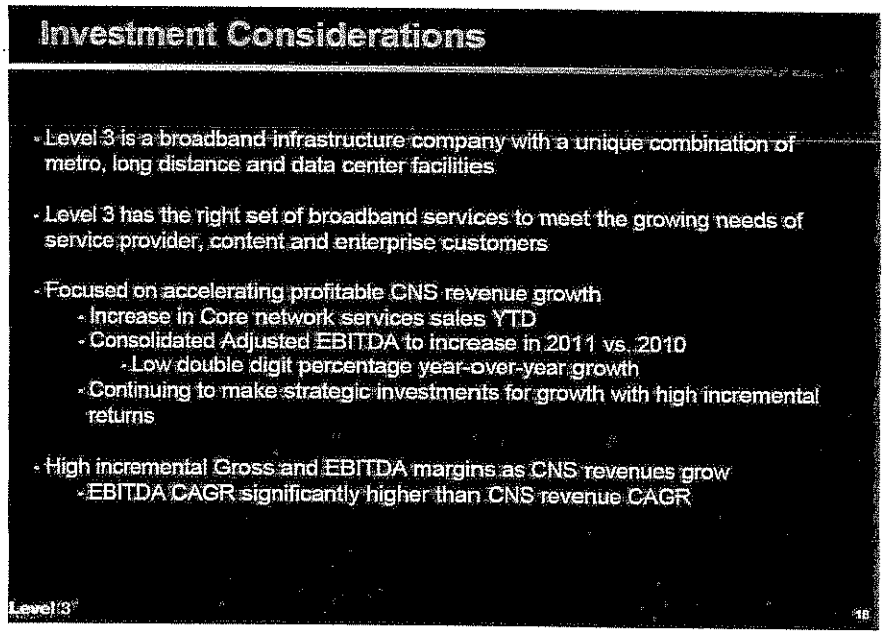
One can debate whether attempting to derive profitability at the level of a specific service such as special access is meaningful at all, much less at the more specific level of DS-1s and DS-3s. Indeed, we argue below that there are many more relevant questions that the FCC has asked in its comprehensive data requests. If it can actually get answers to those questions from all parties who have an interest in special access, it will have a much better understanding of the industry's competitive dynamics than if it relies on arbitrary accounting allocations. What is not debatable is that any information on which the FCC does rely in assessing this rapidly-changing industry has to be current.

What is also not debatable is the obsolescence of PSTN relics like DS-1s and DS-3s. When carriers like tw telecom (TWTC), Level 3, Sprint, T-Mobile—both wireless and wired—talk to investors, they talk about fiber, about IP, and about Ethernet. Wireless carriers, enterprise-network providers, data-center- network providers, and wholesale carriers all boast about their intelligent fiber networks and about their place in the Ethernet ecosystem. In tw telecom's investor-presentation slides, it makes the point very clearly: private line, i.e. special access, is "in the past," Ethernet is "today."





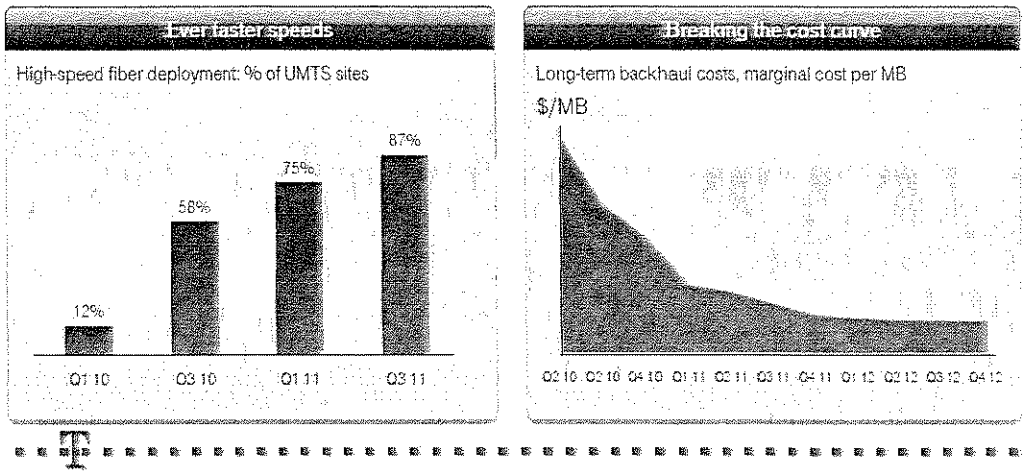
Level 3's September 2011 investor road-show described the company's broadband infrastructure and



services. Those are bearing fruit for the company, as Communications Network Services (CNS) is gaining revenues and enjoying high incremental gross margins and EBITDA margins.

T-Mobile and Sprint both plan to move to high-speed backhaul, and to complete that migration by 2013. The slide below from a January 2011 T-Mobile presentation explains both the need for bandwidth and the economics.

High-speed backhaul enabling 4G speeds is a major competitive advantage for T-Mobile



Source: TMUS Engineering

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These companies' use of DS-1s or DS-3s is clearly temporary. And that is an important point, because it means that when they ask ILECs to provide new DS-1s or DS-3s, it is with the intent of abandoning those long-lives assets within a year or, at most, a very few years. Thus, those leasing ILEC special access are not just asking the ILEC to substitute its capital for theirs; they are asking it to invest knowing up-front that most of that investment will be stranded.

These customers have no incentive to make decisions that conserve ILEC capital. If the regulators allow it, they can force the ILECs to supply circuits that will never pay back the investment made in them. ILECs--who have to serve all who request service at prices that are either still regulated, discounted off those regulated prices, or renegotiated off those prices even where there is supposed upward flexibility--have to waste capital on facilities that are obsolete even as they are placed. That leaves less capital for the ILECs' IP-migration.

But the right that regulators give to the ILECs' DS-1 and DS-3 customers to waste ILEC capital also means that they are being encouraged to distort their own investment decisions. The best explanation of the problem comes from a company that decided to build its own network, independent of the ILECs. Cogent describes itself as a provider of optical Internet, serving businesses that range from small to Fortune 100 as well as Net-Centric customers, which include carriers, Internet Service Providers, and content providers. As unflattering to the RBOCs as it may be, Cogent's explanation of its success bears some thought:[3]

> "Cogent was founded on the premise that bandwidth can be treated like a commodity—produce mass amounts and position it for sale based on price. Leveraging new technologies, we built our own IP data network independent of the traditional voice-based networks owned by the RBOCs (Regional Bell Operating Companies). By doing so, we believed we could reduce

[3] Cogent website, overview of Cogent last accessed on May 30, 2012 at History

the cost of high quality bandwidth down to a level never before offered in the marketplace. Less than five years after lighting our network backbone, we have become widely recognized as one of the largest carriers of Internet traffic in the world."

Cogent's list of key differentiators includes not only price, but diversity from traditional carriers that enables redundancy for customer data, and network-simplicity that allows rapid provisioning.

Thus, the most important questions the FCC has asked so far relate to the process by which customers decide to lease ILEC facilities rather than build their own. But even more important is the question, when does the forced provision of mispriced facilities become counterproductive? Why has Level 3 not yet built out to some of the 100,000 enterprise-buildings that are within 500 feet of its fiber network?[4] Is reliance on obsolete ILEC wholesale facilities retarding not only the ILECs' own migration to an all-IP world, but also that of their customers, including their competitors? If the FCC's goal is to move the U.S. to an all-broadband ecosystem as rapidly as possible, it needs to put the right investment incentives in place.

In their presentations to investors, the ILECs' special access customers have made it clear that DS-1 and DS-3 circuits are obsolete and are being rapidly abandoned. Thus, it is not clear that further study of the pricing of these TDM-circuits makes the best use of the FCC's limited resources. But if the FCC does want to move ahead in this proceeding, it has to do so based on the most current data available, and it needs to understand the impact of its actions on investment incentives and disincentives for all the parties in this marketplace.

[4] Level 3 investor presentation September 2011, last accessed on May 30, 2012 at Level 3 Communications

The importance of current data in the special access proceeding

The FCC prides itself on being data-driven, and nowhere has this virtue been better illustrated than in its recent conduct of the special access proceeding, in which the FCC is reviewing the pricing of DS-1 and DS-3 facilities. Since 2009, the FCC has conducted a workshop and made two voluminous data requests that would allow it to understand the competitive dynamics and economics of the special access business in great detail. It has asked questions that would help it understand:

- The pricing as well as terms and conditions being offered by incumbents (ILECs)[5] in various markets.[6]
- The pricing, terms and conditions being offered by their competitors (CLECs).
- Where ILECs' and CLECs' facilities are located.
- The economics behind CLECs' decisions to build or lease facilities.
- The choices available to and the purchasing practices of the enterprises who dominate the buyers'-side of this market at retail.
- The investment incentives and disincentives the FCC's policies are creating for incumbents, their competitors in the wholesale special access business, wireless carriers who are ILEC customers but also competitors to some ILECs' wireless divisions, and enterprise customers.

In other words, the FCC would not only be in a position to know whether there is competition in specific markets, but to understand why it does or does not exist in particular places:

- It would be able to compare ILEC pricing in various markets. It would be able to relate that pricing to the level of competition in the market, judged on various criteria, including the availability of competitive facilities beyond central-office collocation.
- It would also be able to understand the behavior of other market participants.
- For example, it would be able to examine the dynamic between enterprise customers who exercise enormous purchasing power and the providers among whom they select their

[5] All references to ILECs in this paper are to price-cap ILECs.

[6] For histories of the deregulation of special access pricing, see: John W. Mayo, "The Evolution of Regulation: 20th Century Lessons and 21st Century Opportunities," June 2011, pp. 39-45, and U.S. Government Accountability Office, "FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services," November 2006, pp. 2-6.

vendors. It would have answers to questions such as: How do enterprise customers conduct their search for vendors? When, why, and how do they use multiple vendors? How do they leverage their buying power in one part of the market into another—specifically, how do DS-1 and DS-3 purchases fit into contracts that include many other network components, and cover multiple geographic markets?

- It would understand what network configurations specific CLECs can build off their own networks, where they need to supplement those facilities with the ILEC's network, and when the decision is one of necessity vs. one of convenience. In other words it would better understand when CLECs, or wireless carriers, use ILEC facilities because self-provisioning is uneconomic, and when they use them to conserve capital for other projects with higher potential returns.

- Given the data, the FCC would also be able to understand whether its current policies are encouraging or discouraging migration by ILECs, CLECs, and their customers from an outdated copper-based TDM technology to fiber-based Ethernet.[7]

The FCC's data requests have been comprehensive and designed to understand the competitive dynamics of the market from various perspectives. They have also been voluntary and less successful than is necessary. According to the FCC, the requests did not elicit the responses the FCC needs. In its October 2011 opposition to COMPTEL's petition for a writ of mandamus at the D.C. Circuit, the FCC detailed the efforts it has made to gather data and noted that: "Unfortunately, the Commission has faced obstacles in its efforts to gather the data it needs to make an informed decision on special access. For instance, in response to the FCC's October 2010 request for special access data fewer than 10 percent of petitioner COMPTEL's service provider members (7 of approximately 90) submitted data concerning their experience in the special access market."[8] When the Chief of the Wireline Competition Bureau addressed COMPTEL's conference, she indicated that the FCC still lacks adequate data to craft an order that can be defended in court. *TRDaily*'s April 26, 2012 issue quotes her as saying: "There is an incredible dearth of data" and "We need to be able to show that costs either do or don't relate to a market. We cannot do the analysis without the data."[9]

Lack of data is not a new problem with regard to this issue. There have been two prior attempts to evaluate this market by other entities with a quasi-regulatory interest in special access, both of which suffered from lack of response.

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[7] GAO, p. 18 discusses that wholesale prices low enough discourage competitors from building facilities.

[8] Federal Communications Commission, "Opposition of Federal Communications Commission to petition for writ of mandamus," in re COMPTEL *et al* petitioners, in the U.S. Court of Appeals for the District of Columbia Circuit, filed October 6, 2011.

[9] Ted Gotsch, *TRDaily*, April 26, 2012, citing Ms. Sharon Gillett, Chief of the FCC's Wireline Competition Bureau.

The GAO and NRRI attempts to study the special-access market:

The U.S. Government Accountability Office (GAO) assessed the market in 2006, but was able to get very little data from either customers or competitors of the incumbents. For its findings on pricing, it relied on data from some tariffs in some Metropolitan Statistical Areas (MSAs), as well as some data from the incumbents and from two commercial databases. It could not get data on the specific mix of components within commercial agreements, which are usually covered by non-disclosure. Thus, it did not have access to actual prices paid by specific customers, i.e., the effective discounts[10]. It attempted to compensate for that, by using ILEC average revenues in some MSAs.

GAO also attempted to identify CLEC presence in commercial buildings in 16 MSAs, by using databases from Telecordia and GeoResults. It found fiber-based competition in about 25% of buildings in MSAs with Phase I and Phase II flexibility, with a greater percentage in MSAs with Phase I than Phase II.[11] Since CLECs have no obligation to register with Telecordia's database, it is not clear how accurate the underlying information is. In the two test-samples it conducted, GAO found under-reporting in one case and over-reporting in the other. Thus, it is not clear whether GAO's results were accurate. If they were accurate, it is not clear whether the lower presence of CLECs in Phase II MSAs resulted from deeper effective discounts by the ILECs. As a result, despite GAO's efforts to collect granular data, its conclusions are open to question. Indeed, both the FCC and the ILECs raised questions about the study's methodology and conclusions.[12]

In 2009, NRRI was hired by NARUC (the association of state utility regulators) to study this market.[13] NRRI attempted to survey the industry, but gathered very limited actual information. Like GAO, NRRI highlighted in detail the flaws in the data it had gathered and noted laconically: "The limited data submissions constrained our analysis in some ways."[14] Despite two sets of data requests, it had limited responses from ILECs, very few responses from buyers, and only one from a seller-CLEC of special access. Responses were for different periods, different services, different MSAs, and were even more erratic on pricing than on circuit counts.

NRRI used buyer information to derive market HHIs for 50 MSAs. Of the five buyers who responded to the survey, three were CLECs and two were wireless carriers.[15] No enterprise-buyers were

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[10] GAO p. 12,

[11] GAO, p. 10 and pp. 20, 21.

[12] For FCC comments, please see the letter from Anthony Dale, Managing Director of the FCC, to Mark Goldstein at GAO, dated November 13, 2006, and enclosed as Appendix III in the GAO study. GAO summarizes the ILECs' objections, which are based both on the market definition GAO uses and on the incompleteness of the data on which it based its conclusions, on pp. 46-47.

[13] Peter Bluhm and Dr. Robert Loube, "Competitive Issues in Special Access Markets," revised edition, National Regulatory Research Institute, first Issued January 21, 2009.

[14] NRRI, p. 37.

[15] NRRI, p. 36-37, lists buyers Covad, Sprint, T-Mobile, TW Telecom, and XO and details them in footnotes 142-146 and 149 (the latter for TW Telecom as seller).

represented in the survey, and the three CLECs are a small minority of all CLECs. The five self-selected buyers' responses covered different questions and time periods:

- Some provided line counts for DS-1 and DS-3 circuits but some provided it for only one of those—or for different services in different periods.
- Responses on pricing were even more erratic--one respondent only covered 10 out of the 50 MSAs for which information was requested.
- Some of the respondents did not appear to understand some questions.[16]

As far as we can tell from NRRI's description,[17] the only common ground for these five buyers was for circuit-counts for DS-1 and DS-3 in 10 MSAs purchased from three vendors in 2007. Four of them provided varied information for 40 other MSAs. Based on this fragmentary data and NRRI's own assumptions that markets were served by four sellers—the buyer self-provisioning, an RBOC, another ILEC, and a CLEC (representing all CLECs), NRRI proceed to calculate HHIs for the 50 MSAs and reach more general conclusions about the special access market.

NRRI also attempted to use the FCC's ARMIS[18] database to gauge the ILECs' profitability, after noting that the authors agree with the RBOCs'[19] view that the ARMIS figures are "virtually meaningless."[20] NRRI explains in some detail that the special access category post-2001 included actual revenues but frozen investment for special access, and also included DSL revenues (but not investment) for some (but not all) RBOCs. The NRRI authors state: "This imbalance has inflated ARMIS special access earnings reports and made them unreliable."[21] They attempted to correct for ARMIS' flaws by adjusting plant investment to reflect special access growth since 2000:[22] "Specifically, we increased 2007 special access investment totals so that they bear the same relationship to total investment that 2007 special access revenue bears to total 2007 regulated revenue." Their own attempt to adjust for ARMIS' failings is, unfortunately, also flawed by the unsupported assumptions that special access investment had increased in 2000-2007 in the same proportion as special access revenues, that DSL's investment/revenues ratio is identical to that of special access, and that allocations were accurate in 2000. It also does not, as far as we can tell, correct for the variations among companies in the treatment of DSL. NRRI did not adjust for the loss of switched lines, which would have changed cost allocations between switched and dedicated, had factors not been frozen. Beyond that, whatever this method may have said about returns on special access in general, it had nothing specific to say about returns on DS-1 and DS-3 facilities in particular.

The NRRI study's strength is its explanation of the difficulties of gathering data in this market, and its frankness about the inadequacy of the data it was able to gather. Its weakness is its decision to

[16] NRRI, pp. 37-38.
[17] NRRI, pp. 35-38.
[18] This is the database in which the FCC collects financial information about various ILECs.
[19] RBOC stands for Regional Bell Operating Company.
[20] NRRI, p. 70.
[21] NRRI p. 70.
[22] NRRI p 71.

overcome the data constraints with remarkable creativity--whether dealing with pricing, HHI calculations, adjustments to ARMIS--and to make recommendations that still haunt the special access record despite their admitted lack of statistical underpinning.[23]

GAO and NRRI had the luxury of making recommendations based on admittedly-bad data. Unlike NRRI and GAO, the FCC is not merely doing studies. The FCC's decisions have very real consequences on the choices available in the marketplace and on the profitability of the various companies that provide those choices. Its mandate is to assure just and reasonable prices, but it also has other goals, such as promoting broadband deployment by promoting investment. The FCC is accountable to the courts, which tend to overturn decisions based on admittedly-bad data. Thus, the FCC is not in a position to move ahead in the admitted absence of data, as NRRI and GAO did, and it is expected to make yet another data request. Of course, such a request will only be useful if the FCC can ensure compliance.

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[23] See Anna-Maria Kovacs, "Telecom Regulatory Note: Special Access Report from NRRI," Regulatory Source Notes, January 26, 2009.

[24] FCC, Fifth Report and Order and Further Notice of Proposed Rulemaking in CC Docket 96-262, August 5, 1999. Also see Mayo pp. 39-41 and GAO pp. 2-6.

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Conflicting claims in this proceeding:

Members of all three sets of customers are participating in the FCC proceeding, either directly or through their associations. Their claims are in conflict, which is one of the reasons good data is so important in this docket.

The enterprise customers are participating via the Ad Hoc Telecommunications Users' Group (Ad Hoc). Ad Hoc claims that special access prices are too high. Its various filings ultimately rely on 2007 ARMIS data that supposedly shows that the incumbent price-cap carriers are overearning on special access. As we indicated in the NRRI discussion, the 2007 ARMIS data is profoundly flawed and other ways to evaluate their claim would be useful. Enterprise customers are not expected to build their own networks, so in their case a key question is whether they have alternatives offered by competitive providers. To make their claim that they are overpaying because the market is not competitive, these large retail buyers of special access would have to prove that there are no alternatives available to them in the market. Were the FCC to grant their wishes, retail DS-1 and DS-3 special access prices would fall.

Some wireless carriers are also seeking lower prices for their backhaul circuits. These are network providers themselves, so there are two key questions in their case: why are they choosing to lease rather than build their own facilities and what backhaul alternatives are available to them? Were the FCC to grant their wishes, the price of DS-1 and DS-3 wireless backhaul would fall.

The CLECs are competitors of (as well as, in some cases, customers of and vendors to) the ILECS in the special access business. They lease ILEC facilities to fill out their own extensive networks, which they then offer to enterprises and/or wireless networks. In other words, they are often both customers of the ILECs and their competitors in the enterprise and wireless-backhaul markets. Collectively, they claim that:

- They need the ILEC facilities in places where they themselves cannot provision economically.
- They cannot compete against ILEC retail pricing (encompassing list rates, discount plans, and potentially-further-discounted individual contracts).
- And/or they cannot compete against ILEC terms and conditions, particularly volume and term conditions.

Were the CLECs to get their wishes, the ILECs would not be able to implement volume and term conditions, which would make it difficult to justify discount plans, and impossible to provide assurance of capital recovery on long-lived assets. As far as pricing goes, it is unclear what the wishes are, because there is a conflict between requests within this group for lower prices and complaints that prices are so low that CLECs can't compete.

In essence, while the retail customers (enterprise, wireless) are claiming that special access prices are too high, the CLECs are saying that retail prices are already so low that they can't compete. This is not necessarily a conflict—it is possible that there are good reasons why the CLECs are less efficient at providing special access than the ILECs, and it is also possible that CLECs can't leverage the volume of purchases they use from the ILECs to get lower prices out of current contract terms than retail customers do. But it is a very important potential conflict that the FCC has to explore before it decides to change pricing or terms and conditions in this industry.

The FCC needs to understand when it is economic for wireless carriers and CLECs to build their own facilities and when it is not. After all, the ILECs' facilities also require investment and operating costs, and in at least some cases there is no inherent reason why they would differ from those of the wireless carriers and CLECs.

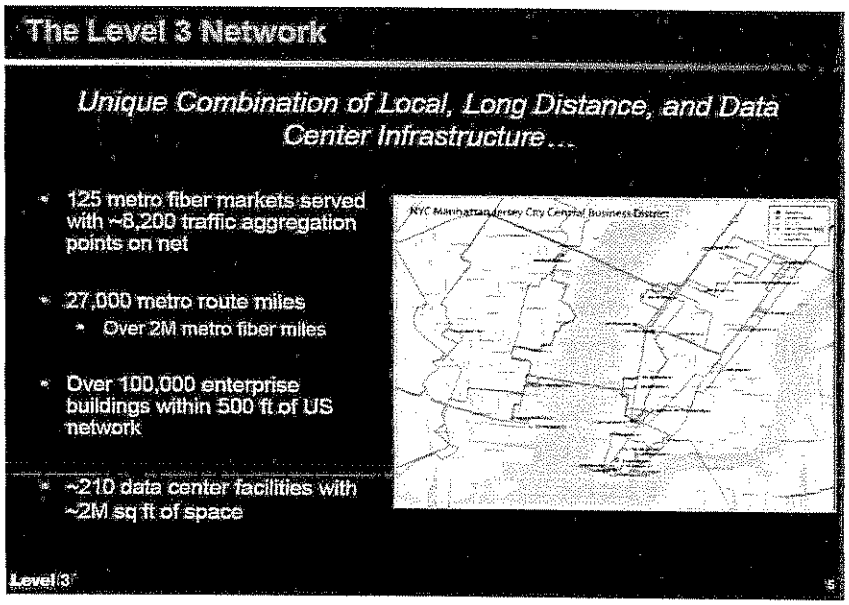
- The simplest case is the greenfield case, in which both the ILEC and the CLEC/wireless carrier is building a new facility. There is no reason to assume in this case that the ILEC has a cost advantage. A relevant question in this case is whether the CLEC/wireless carrier is choosing to lease because the ILEC is actually providing the facility below-cost, below its own cost as well as the potential CLEC-customer's cost.

- The more complex case is where the ILEC has a facility to the site and the CLEC/wireless carrier does not. The ILEC is pricing DS-1 and DS-3 circuits based on the stranded cost of an obsolete facility. The CLEC/wireless carrier has no obligation to use the same obsolete technology. Here the question is whether there is a more efficient technology that could be used by the CLEC/wireless carrier to serve the available volume of demand. In other words, is the demand in this building/cell site available to the newcomer so low that leasing from the ILEC is the only economic choice, or is the ILEC pricing the stranded facility so far below cost that even more efficient technologies cannot compete?

- Another issue, relevant to cost, is the location of CLEC facilities. Level 3, for example, has told investors that there are 100,000 enterprise buildings in the U.S. within 500 feet of its fiber

rings.[25] Enterprise buildings generally imply large-volume demand. 500 feet is much closer than most central offices are to most office buildings. Whatever Level 3's (or any other CLEC's) reasons may be for not using its own facilities to serve buildings miles away from its own fiber, or customers who only require a single DS-1, it's not clear why Level 3 would not be serving directly more of these enterprises so close to its fiber rings. It is at least worth asking whether underpriced special access circuits are encouraging it to distort its sales efforts as well as its capital.

Figure 1:

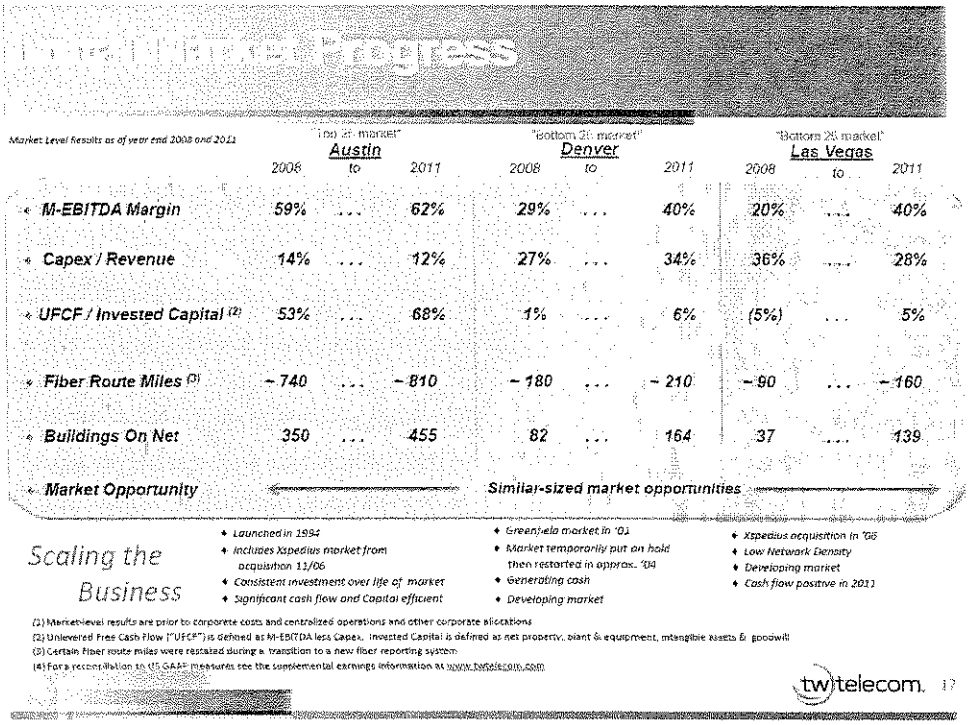


- tw telecom's first-quarter 2012 presentation to investors includes a slide that shows the economics of three of its markets: Austin, Denver, and Las Vegas. Austin is listed as one of the company's top-25 markets, generating significant cash flow and capital efficient. On the other hand, both Denver and Las Vegas are in the bottom-25, with Denver listed as generating cash and Las Vegas as cash-flow positive in 2011.[26] What's interesting is that the statistics tw telecom lists for these cities—fiber miles and buildings on-net--do not explain the discrepancy in capital efficiency, i.e., in the capex/revenue ratio. Austin has 1.8 fiber miles per building, Denver 1.3, and Las Vegas only 1.2. Based simply on distance or efficiency of fiber-use, their capital efficiency should be reversed. The issue appears to be the ability to generate revenue in a given market, even one like Denver that has been on-line for a decade.

[25] Level 3 investor presentation , slide #5 , last accessed on May 24, 12 at http://files.shareholder.com/downloads/LVLT/1888634866x0x502948/16cd1806-862d-416a-b3de-00dca35238dd/Informational%20Investor%20Roadshow%20Presentation_2011_Sept%202011.pdf

[26] tw telecom, Investor Presentation May 2012,listed on website as Investor Presentation for Q1 2012 Final, slide 17, last accessed on May 30, 2012 at Investor Presentations | tw telecom

Figure 2:



Market Level Results as of year end 2008 and 2011

	"Top 25 market" Austin 2008	to	2011	"Bottom 25 market" Denver 2008	to	2011	"Bottom 25 market" Las Vegas 2008	to	2011
M-EBITDA Margin	59%	...	62%	29%	...	40%	20%	...	40%
Capex / Revenue	14%	...	12%	27%	...	34%	36%	...	28%
UFCF / Invested Capital (2)	53%	...	68%	1%	...	6%	(5%)	...	5%
Fiber Route Miles (3)	~ 740	...	~ 810	~ 180	...	~ 210	~ 90	...	~ 160
Buildings On Net	350	...	455	82	...	164	37	...	139
Market Opportunity	Similar-sized market opportunities								

Scaling the Business

- Launched in 1994
- Includes Xspedius market from acquisition 11/06
- Consistent investment over life of market
- Significant cash flow and Capital efficient

- Greenfield market in '01
- Market temporarily put on hold then restarted in approx. '04
- Generating cash
- Developing market

- Xspedius acquisition in '06
- Low Network Density
- Developing market
- Cash flow positive in 2011

(1) Market-level results are prior to corporate costs and centralized operations and other corporate allocations
(2) Unlevered Free Cash Flow ("UFCF") is defined as M-EBITDA less Capex. Invested Capital is defined as net property, plant & equipment, intangible assets & goodwill
(3) Certain fiber route miles were restated during a transition to a new fiber reporting system
(4) For a reconciliation to US GAAP measures see the supplemental earnings information at www.twtelecom.com

tw telecom 17

Bottom line, the FCC needs to understand the CLECs' economics. That would help it understand the calculations CLECs make about the economics of lease vs. buy, as well as to understand why/where the ILECs' prices may be too low as opposed to too high. The conflict between retail customers who claim prices are too high and wholesale customers who claim they can't compete at retail is not necessarily insoluble, but it does require careful scrutiny.

The FCC also needs to understand how pricing is done by all parties. While DS-1s and DS-3s are sometimes sold in isolation, they are often part of a much larger contract. tw telecom, for example, claims in its investor presentations to be very competitive in the enterprise Ethernet market.[27] How large a component of a network do DS-1s and DS-3s have to be for their pricing to actually matter in the pricing of a bid on such a network?

Another issue is the concern expressed by Level 3 about "lock-in." It would be helpful to understand terms and conditions in various CLECs' contracts to their own customers. Level 3's 2011 10K explains that it charges termination penalties "to settle contractually committed purchase amounts that the customer no longer expects to meet."[28] Its 10K also notes that "for contracts involving private line, wavelength and dark fiber services, Level 3 may receive up-front payments for services to be delivered for a period of generally up to 20 years.... At December 31, 2011, for contracts where up-front payments were received for services to be delivered in the future, the Company's weighted

[27] tw telecom, Investor Presentation for Q1 2012, e.g., slides #3-7, 13-15, 21, 33.
[28] Level 3 2011 10K p. F-12.

average remaining contract period was approximately 11.2 years."[29] Aside from the far longer contract term and the demand for up-front payments to cover the capital Level 3 is laying out on behalf of its customers, how does that differ from the provisions in ILEC contracts that Level 3 finds anticompetitive? tw telecom also tells investors that more than 60% of its total revenues come from contracts that are three years or longer.[30] If it is good risk management for CLECs to demand term commitments—or even up-front payments—when investing capital that could easily become stranded if the customer had no financial stake in a continuing relationship, isn't it also a good practice for the ILECs?

All of that raises the question: what evidence does the FCC have about cost and pricing in this market? As far as we can see in the record, much of which is redacted—leaving us also lacking essential evidence—the parties asking for price cuts are relying on the GAO report or on ARMIS data that goes back to 2007 (or on the NRRI report which also relies on ARMIS 2007 data). We have already discussed the problems with ARMIS, as of 2007. But the much bigger problem is the obsolescence of the 2006 GAO data, as well as the 2007 ARMIS data, or for that matter any data from that period.

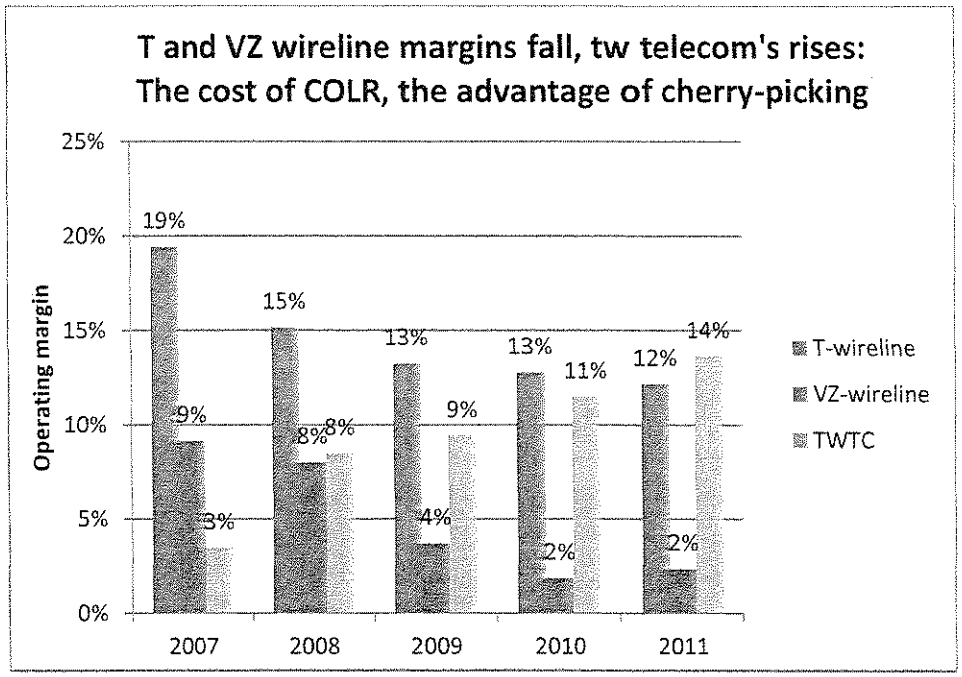
The need for current data:

The industry has changed radically in the last four years, and even had the 2007 ARMIS data been perfect at the time, it would be problematic today. To understand how radically the cost picture has changed in the industry, one need only look at some industry financials:

- Verizon's wireline operating margin (operating income/operating revenues) has fallen from 9% to 2% since 2007.[31]
- AT&T's wireline operating margin has fallen from 19% to 12% since 2007.[32]
- tw telecom's operating margin has risen in that time-frame from 3% to 14%.[33]
- Despite the ILECs' much larger size and supposed scale advantages, the profitability of the two largest ILECs is lower than that of tw telecom, which is a pure-play CLEC.

[2929] Level 3 2011 10K, p FR-5.
[30] tw telecom Investor Presentation for Q1 2012, slide # 32.
[31] Calculations based on Verizon financial reports and on Jonathan Chaplin, April 25, 2012 Credit Suisse model for Verizon, wireline section normalized to exclude non-recurring items.
[32] Calculations based on AT&T financial reports and on Jonathan Chaplin, April 25, 2012 Credit Suisse model for AT&T, wireline section normalized to exclude non-recurring items.
[33] Calculations based on tw telecom financial reports.

Figure 3:



This graph raises some obvious questions, and the answer is equally obvious:

- Why have AT&T and Verizon's margins deteriorated so much? They have lost substantial market share in a business that consists largely of fixed cost, and--because of their regulatory obligations--they can't shed variable cost the way an unregulated business would.

ILECS can't right-size

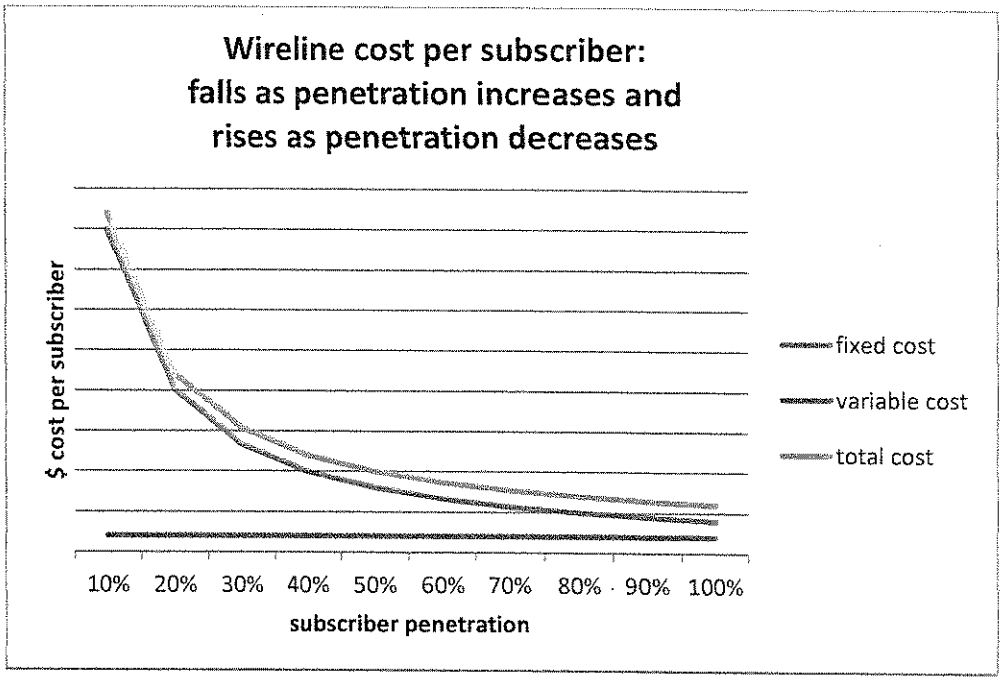
- How can a small company like tw telecom have a better margin than AT&T and Verizon? It operates under different regulatory mandates. It can cherry-pick its market, choosing to serve only those customers it can serve profitably. It can also choose to use ILEC facilities rather than facilities of its own, when the ILEC facilities are more economic.

CLECs can right size

AT&T and Verizon were built out to serve any customer who requests service in their geographic territories. They still have that carrier-of-last-resort (COLR) obligation, although they have lost many of their customers. Thus, they still have the cost of keeping the network in readiness for 100% penetration of the homes and businesses they pass, even though their actual penetration is much lower. That means that their cost-per-remaining-subscriber is rising precipitously on their pre-2007 offerings—e.g., switched voice and data to both the consumer and business markets. The new offerings they have added—e.g. video—have required new capital investment as well as new operating costs, have carried build-out requirements of their own (in this case from franchising authorities), and suffer from low subscriber penetration.

Key to understanding the changing cost positions in the telecom industry is understanding the cost structure of a network. As Figure 4 shows, the cost structure is dominated by fixed cost.

Figure 4:



A network operator has to build the network before it can take on customers. The trenches must be dug, the conduit laid, the fiber/copper/coax laid, the switch or router placed in the central office, etc. There are some variable costs—to some extent line cards can be added to switches as customers come on-line, and to some extent the drop to the customer may be added after the subscriber signs up. So there is some "success based" investment as penetration increases, but most of the costs are fixed. For any geographic market, profitability is largely a function of increased subscriber penetration. The trip from 0% share to 100% share is an exhilarating slide down the cost-curve.

Conversely, as subscribers are lost, the operator crawls painfully back up that curve. What makes it worse, however, is that not all costs that were variable on the way down are also variable on the way back up. Loops that were placed to homes that are no longer served cannot easily be reused. Switches may be excess now, but they have been bought. There is a tremendous amount of stranded investment that still has to be paid for—lenders want repayment and a company that values its future credit rating will pay them. What makes this situation particularly nasty for ILECs is their carrier-of-last-resort (COLR) obligation. They have to be ready to provide service to any potential customer in their service territory who might request service, however uneconomic it may be to provide that service. They are also held to very tight service standards. That means that plant has to be kept in good condition, even in areas where few or no subscribers remain. On the trip back from 100% subscriber penetration to 50% penetration and potentially to even 0%, there is little or no ability to shed what might—in a normal industry--be variable cost.

Not only is the ILEC's capital investment almost entirely fixed, but there is very little about its network operating cost that is variable. True, if there is no subscriber using a loop, it is not likely that there will be a service call if water infiltrates the drop. But if water infiltrates a bit higher up, in the cabling that is shared with still-existing-subscribers, a truck will have to roll. Network operating cost, depreciation of the plant in place, and interest on the debt that paid for the plant in the first place—these are not variable to any meaningful extent in a regulated business that combines COLR obligation with high service-standards. The postage on an individual bill might be saved, if it no longer has to be sent, but the rest of the billing system's massive cost is not variable, at least not in the short-to-intermediate term.

By contrast, tw telecom can cherry-pick the market, i.e., pick the most profitable market segment, and within that serve only those customers whom it can serve economically. Furthermore, it can do so using either its own facilities or those it leases from the ILECs (or others). It is not burdened by an obligation to serve consumers at all, much less universally. Neither does it have to build out to individual small businesses. It is not competing in the markets which are under extremely attack by wireless and cable. To get around its own network's fixed-cost characteristics, tw telecom can lease the ILEC's network, which to tw telecom is a variable cost. When it builds, it can select the lowest-cost areas and it can also select the markets in which it expects the best customer-penetration and avoid those in which penetration is likely to be low. Given the right to both cherry-pick the market and use ILEC facilities where those are cheaper than self-provisioned facilities, tw telecom can, indeed, enjoy better margins than its ILEC competitors.

As tw telecom's May 2012 investor presentations point out, 80% of its capital expenditures are "success based."[34] In contrast, the ILECs' COLR obligation inflates their costs beyond what their actual customer base requires, and far beyond what any rationally-chosen customer base would require. In the four years between 2007 and 2011, tw telecom spent a total of $1.2 billion in capital expenditures. In return, it increased annual revenues by about $300 million, i.e., its revenues of $1.4 billion in 2011 exceeded its 2007 revenues of $1.1 billion by about $300 million. Thus, over the four-year period, TWTC spent a cumulative $4 of capital for every extra $1 of revenue that it gained. Over the same period, AT&T spent a total of $46.4 billion in capital while its revenues fell by $11.8 billion. And Verizon spent $32.3 billion in capital while its revenues fell by $8.4 billion—despite the fact that it did the only form of "right-sizing" the regulators allow and divested many of its rural operations (both capital and revenues are normalized for the divestitures).[35] Unlike tw telecom, which spent capital for revenue it gained, AT&T and Verizon spent $4 of capital for every $1 of incremental revenue that they lost.

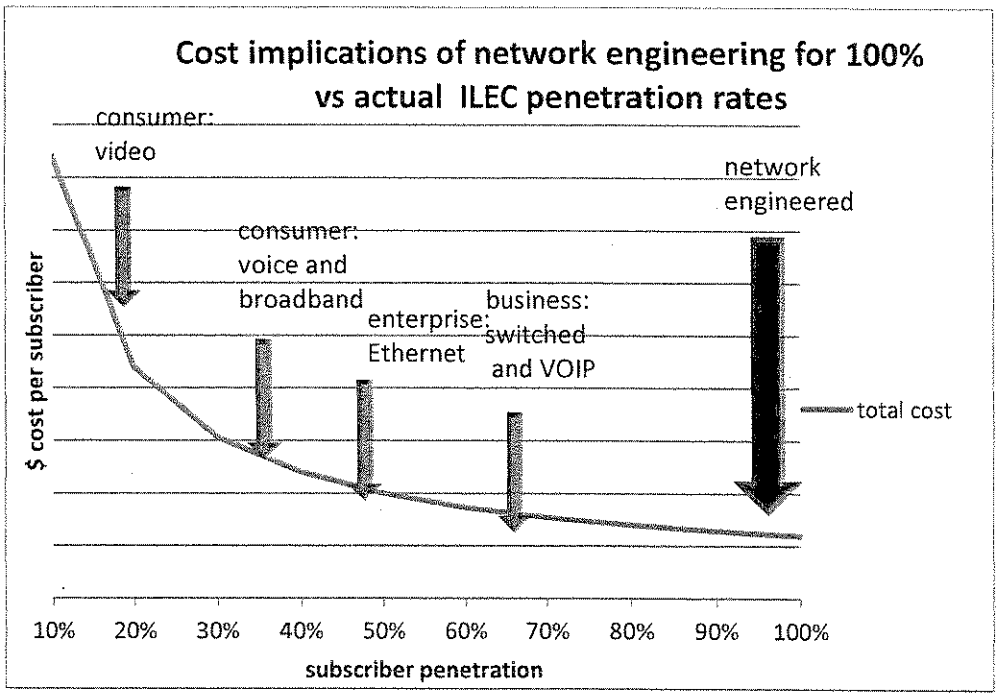
Figure 5 below shows ILEC market share in various segments. What is obvious from looking at the places in the cost curve where the ILECs are now operating is that they have moved past the

[34] tw telecom Investor Presentation for Q1 2012, slide #25.

[35] Calculations based on tw telecom, AT&T, and Verizon financial reports and Credit Suisse models for AT&T and Verizon.

relatively-painless crawl up the cost curve from 100% penetration to 50%, and are now in the area where costs increase asymptotically.[36]

Figure 5:



This figure has many implications. It cries out for a rethinking of the feasibility of maintaining COLR obligations, for one thing.

In this paper, however, we limit ourselves to consideration of the FCC's special access proceeding. Looking at the incremental capital that AT&T and Verizon have invested since 2007 and at the incremental revenue that they have lost since 2007, it seems likely that under any relevant and current analysis, one would find the companies' returns greatly reduced.

They would obviously be reduced overall. Verizon-wireline is losing money in the wireline business once its interest costs are taken into account—and that's before taking massive writedowns into account. AT&T-wireline is certainly doing better than Verizon, but much less well than it did in 2007. There is no meaningful way to peel out the numbers for special access--much less specifically for DS-1s and DS-3s. The circuits run on cables that serve other customers, into buildings in which those shared cables probably serve far fewer customers today than they did in 2007. But even if one did attempt to do a service-specific analysis, the return on special access would probably be reduced, because the investment base consists largely of shared costs, and there are fewer other customers and less other revenue to which to allocate the shared investment.

[36] Sources for subscriber penetration are FCC Local Telephone Competition Reports for 2006 and 2010, Vertical Systems Group, and Credit Suisse models for AT&T and Verizon.

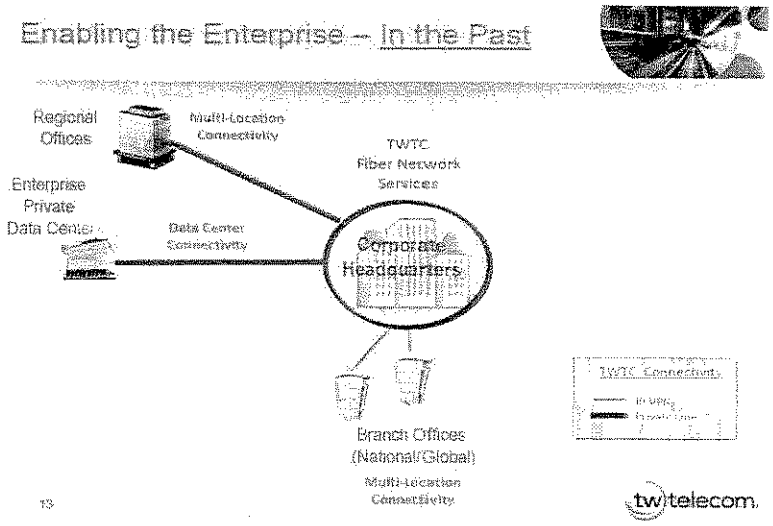
The current FCC special-access proceeding record relies very heavily on the 2007 ARMIS data which was defective at the time and has the insurmountable flaw of total irrelevance in 2011. But it is not merely the ARMIS data that has become irrelevant. A discussion focused on low-speed TDM links is irrelevant to the IP world in which all these companies actually operate.

CLECs attract investment via their fiber-based IP-networks:

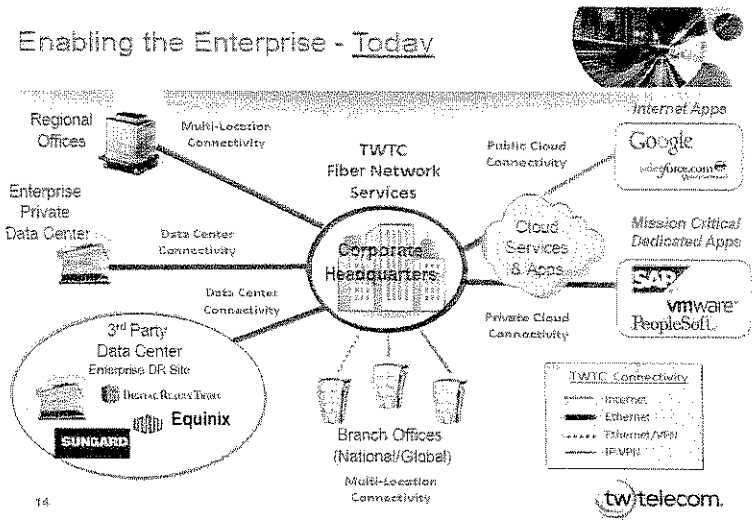
When one looks at investor presentations from tw telecom, Level 3, XO, Cogent, and even from Sprint and T-Mobile, what is striking is the extent to which they have moved into the IP world, into Ethernet over fiber, and done so over their own facilities.

tw telecom's Company Overview for investors, dated May 2012, highlights the company's goal of being a major player in the Ethernet ecosystem, based on a fiber network that spans 28,000 route miles and connects nearly 16,000 buildings on-net. "Today" the network is based in Ethernet, IP/VPN and Ethernet/VPN. Private line is "In the Past."[37]

Figure 6:



[37] tw telecom's May 2012 Company Overview investor presentation, slides 13 and 14.



Similarly, in Figure 1 on page 14 above, Level 3's September 2011 informational investor presentation described 27,000 metro fiber route miles, with 8,200 traffic aggregation points on-net in 125 metro markets. It highlighted that 100,000 enterprise buildings are within 500 feet of Level 3's U.S. network.

XO's description of the company is similarly focused on a super-high-speed, fiber-based, IP network:

Figure 7:

IP Network

The core of the XO IP network is a mesh of multiple 10 Gigabit (Gbps) circuits, connecting XO network nodes, peering POPs and XO Data Centers nationwide. The XO IP backbone runs across its own intercity fiber facilities, supported by terabit-capable core routing platforms and high-capacity peering interconnections. XO offers Dedicated Internet Access (DIA) and IP Transit customers enhanced Internet connectivity. This network design delivers maximum end-to-end throughput as well as high levels of protection, redundancy, and Quality of Service required to support XO Voice over IP services.

The XO IP network utilizes an advanced IP design, ensuring scalability as well as the ability to offer advanced future IP services plus the added benefit of no single IP point of failure past the customers' access port.

And since the XO IP network and market connections run end-to-end across XO facilities, XO can quickly resolve any problems that may occur, this eliminates many of the common failure points found in older network designs.

Metro Fiber Connectivity

Metro Area Networks (MANs) allow XO to control customer traffic and ensure an efficient data transfer to the intercity network. XO® metro-area networks are composed of enough metro fiber-optic cable to circle the globe more than 45 times – 1.16 million metro fiber miles throughout 40 major US cities, including the largest 30 cities in the United States.

Unlike non-facilities based providers or long-haul providers, XO, with its MANs, has access to the end customer. The MANs enable XO to offer such dynamic products as Ethernet and SONET services that carry data faster and more efficiently than our competition.

In its description of its Metro Area Networks (MANs)[38], XO states that it brings 1.2 million metro fiber miles to 40 U.S. cities. It highlights its access to end customers, and says that its MANs enable "such dynamic products as Ethernet and SONET services that carry data faster and more efficiently than our competition."

Nowhere in this literature aimed by tw telecom and Level 3 at investors and by XO at customers is there any indication that they rely on something as slow and old-fashioned as a DS-1 or DS-3. tw telecom explicitly places those in the past. Not surprisingly, Vertical Systems Group, which tracks enterprise networks, indicates that Ethernet bandwidth surpassed aggregate legacy data-circuit bandwidth in 2011.[39]

Cogent goes a step further than its peers and explicitly ascribes its success to the fact that it does <u>not</u> rely on RBOCs:[40]

Figure 8:

Overview of Cogent

Cogent is a multinational Tier 1 Internet Service Provider consistently ranked as one of the top five networks in the world. Our primary service offering consists of Internet access and data transport, offered over our award-winning fiber optic, IP data-only network, along with colocation in any of our 43 Internet data centers. We service two customer segments: "Corporate" (small businesses to Fortune 100 companies) and "NetCentric" (Carriers / Service Providers and Application / Content Providers, whose businesses rely primarily on Internet access).

Our innovative, facilities-based network spans across North America, across the Atlantic throughout Europe, and across the Pacific to Asia. With over 56,200 route miles of intercity fiber and more than 19,800 metro fiber miles, we provide service to over 175 major markets and interconnect with over 3,940 other networks.

Cogent was founded on the premise that bandwidth can be treated like a commodity—produce mass amounts and position it for sale based on price. Leveraging new technologies, we built our own IP data network independent of the traditional voice-based networks owned by the RBOCs (Regional Bell Operating Companies). By doing so, we believed we could reduce the cost of high quality bandwidth down to a level never before offered in the marketplace. Less than five years after lighting our network backbone, we have become widely recognized as one of the largest carriers of Internet traffic in the world.

We stand apart from our competitors in many areas, but key differentiators include:

- Our customer connections are dedicated and non-oversubscribed
- Our prices are the lowest in the industry
- Our diversity from traditional carriers enables redundancy for customer data
- Our simple network structure allows for rapid provisioning
- Our 'self-healing' ring architecture design minimizes outages
- Cogent is Smart Business Internet

Cogent Communications is a public company trading on the NASDAQ under the symbol CCOI. Cogent is headquartered in Washington, D.C., United States of America.

In this company-overview on its webpage, Cogent describes its network—global, IP-based, serving 175 major markets with over 56,000 route miles of intercity fiber and more than 19,800 metro fiber miles

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[38] XO's website, under: about XO, XO network, network details. Last accessed on May 30, 2012 at <u>Network Details: Get some great knowledge about our capabilities | XO</u>

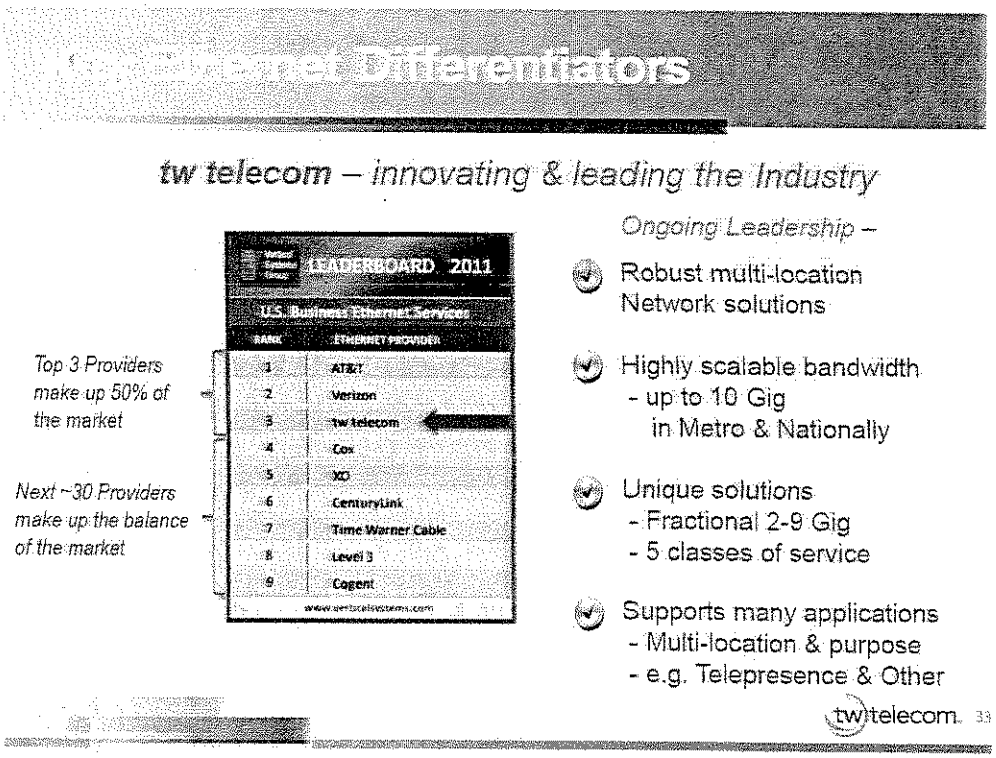
[39] Vertical Systems Group, "U.S. Ethernet Bandwidth Surpasses Legacy Bandwidth," stat flash, July 26, 2011. Last accessed on May 30, 2012 at <u>StatFlash - July 26, 2011</u>

[40] Cogent website, about Cogent. Last accessed on May 30, 2012 at <u>Overview of Cogent</u>

and interconnecting with 3,940 other networks. It then specifically attributes its success to its complete independence from RBOC networks. Cogent explains that it leveraged new technologies and built its IP-data network without relying on the RBOCs' traditional voice-based networks, which allowed it to "reduce the cost of high quality bandwidth down to a level never before offered in the marketplace." Among the key differentiators to which it attributes its success is: "Our diversity from traditional carriers enables redundancy for customer data."

That these companies are successful is clear from slide 33 in tw telecom's Q1 2012 investor presentation, shown below. Based on data from Vertical Systems Group, tw telecom shows that it has become a leader in the business Ethernet market. It is the third largest player in the market, behind AT&T and Verizon, who collectively have less than 40% of the market. Level 3, XO, and Cogent are among the six players who collectively serve the next 25% of the enterprise-Ethernet market.

Figure 9:



Wireless backhaul:

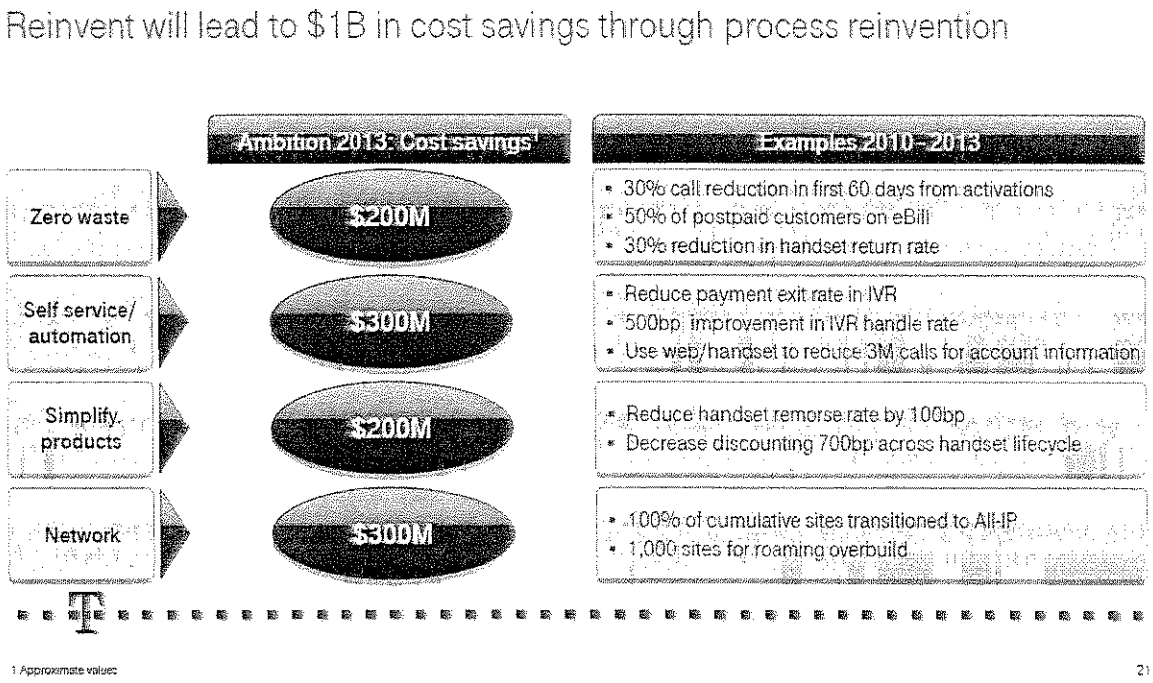
The wireless world, like the metropolitan-area-network world, is driven by the need for bandwidth. Cisco VNI projects that average mobile connection speed in North America in 2016 will be 11 times faster than it was in 2011, a compound growth rate (CAGR) of 43%. Much of that growth is attributed to the expected penetration of 4G. Cisco expects 6% of North American customers in 2016 to use 4G, and it expects them to generate 36% of mobile data traffic. In the aggregate, Cisco VNI projects that

North American mobile data traffic will grow at a CAGR of 75% between 2011 and 2016. That means that the bandwidth used in 2016 will be 17 times as much as the bandwidth used in 2011.[41]

Not surprisingly, wireless carriers are moving toward IP and Ethernet over fiber backhaul.

T-Mobile laid out the plan at its January 2011 Investor Day. [42] As Figures 10 and 11 show, T-Mobile's plan is to transition all of its cell sites to all-IP by 2013.

Figure 10:



As far back as March 2010, T-Mobile had been planning to save capital by moving away from DS-1s. It described to analysts an alternate backhaul strategy that would move to high-speed backhaul provided by alternate backhaul providers.[43] As Figure 11 below shows, it expected to reduce long-run backhaul costs by 90% via this strategy, and to accomplish most of this work within 2011, by bringing alternate backhaul providers to 75% of its 3G cell sites. As Figure 10 above shows, the plan is to complete the job by 2013.

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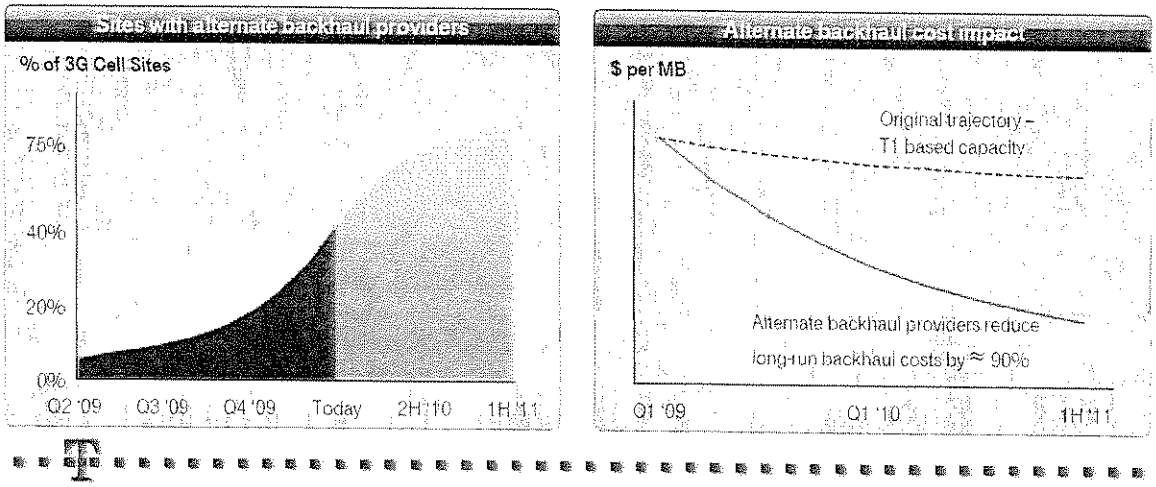
[41] Cisco VNI, last accessed on May 30, 2012 at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf

[42] T-Mobile Investor Day, January 20, 2011, slides 21 and 40, last accessed on May 30, 2012 at Deutsche Telekom: Presentations

[43] Deutsche Telekom Investor Day, March 18, 2010, slide 21, last accessed on May 30, 2012 at Deutsche Telekom: Presentations

Figure 11:

Using alternate backhaul providers to reduce costs.



Sprint's strategy is similar. Carol Wilson's article in *Light Reading* on October 5, 2011 cites Paul Schieber, Sprint's VP of Roaming and Access Planning, as saying that Sprint will award backhaul contracts for a total of 40,000 cell sites by mid-2012, with 25,000 of those done by late 2011: "Schieber said Sprint will end up with '25 to 30 significant backhaul providers' that will likely be a mix of incumbent LECs, cable MSOs and alternative carriers, all of whom will be expected to deliver Ethernet predominantly over fiber for Sprint's new multi-mode network, which will combine the CDMA, IDEN and WiMax networks it uses today.... Sprint could still build its own backhaul facilities, where alternatives presented don't meet its requirements, including in some less populated areas. But to date, he is pleased with the way industry has stepped up."[44]

All of this is part of Sprint's Network Vision project, which ultimately plans to take the network to a combination of CDMA and LTE, and includes the complete phase-out of the iDEN network Sprint bought from Nextel. In Sprint's first-quarter-2012 analyst call, Steve Elfman, Sprint's President of Network Operations and Wholesale, told analysts that Network Vision is on track. He expects to have 12,000 LTE cell-sites up and running by the end of 2012, and is satisfied with the 600 sites that are operational: "For sites on air, we're seeing improved performance of radios, antenna and backhaul, all of which are meeting our performance objectives." At the same time, Sprint plans to

[44] Carol Wilson, *Light Reading*, October 5, 2011.

decommission 9600 Nextel cell sites by the end of third quarter 2012, with a complete shutdown of the Nextel network in 2013.[45]

Bottom line, both Sprint and T-Mobile expect to complete the move to high-speed backhaul by 2013, and plan to use numerous backhaul providers. They are both fulfilling plans they announced to investors in 2010. Whatever reliance either has on DS-1 or DS-3 circuits from ILECs is temporary, and likely to end in 2013. What that means to the ILECs, of course, is that the DS-1 and DS-3 facilities they built to Sprint and T-Mobile cell sites will become stranded within the next year, leaving them with wasted capital past the point when their contract-terms expire.

Summary:

From the FCC's perspective, it is good news that wireless carriers are deploying mobile broadband rapidly, and that they are enjoying the benefits of competition in the backhaul market. It is also good news that CLECs are moving to IP and Ethernet over fiber, and are competing intensely with each other.

In view of these companies' moves away from DS-1 and DS-3, and in view of the competitive dynamics and low prices in the new markets, it is not clear why the FCC should spend its resources on the special access proceeding. If the FCC does feel the need to continue, then it must do so carefully and with a thorough foundation in current data. It needs to understand the rapidly evolving dynamics of the market to ensure that it will create the right investment incentives for the ILECs, for their wholesale customers/competitors, for wireless carriers and for enterprise customers to continue the process of upgrading our nation's communications networks for today's and tomorrow's broadband services.

[45] Sprint first quarter 2012 analyst conference call, April 25, 2012, transcript by Thomson Reuters, p. 6 and presentation slides last accessed on May 30, 2012 at Sprint Nextel Corporation - Investor Relations - Corporate Profile

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Cable MSO Ethernet Strategy: Moving Up-Market for New Opportunities

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Conclusions

To satisfy the growing demand for high-capacity and high-reliability network services, mid-market businesses will increasingly turn to Ethernet-based solutions. To meet this demand, MSOs have increased their network reach cross-country with a widening range of Ethernet and hybrid WAN, MAN and MBE access solutions. In doing so, they have entered an increasingly crowded marketplace, characterized as a clash between strong local providers (MSOs and CLECs) rushing up-market and the ILECs and RLECs moving down-market. This increased competition will serve the mid-market business well, by forcing the various providers to hone their messages, sales efforts and solutions to the specific characteristics of the mid-market.

MSOs will maintain an advantage over competitors moving into the mid-market due to their strong local presence and experience in the smaller business markets. The continuing challenge for MSOs is to transition their small business market expertise and credibility to increasingly complex, multi-site networking situations common to mid-market businesses. The MSOs' national core and metro networks, and dense metro fiber infrastructure within their footprints will help establish them as true national providers.

Proactive education and effective communications in the pre-sale stage of mid-market prospects will continue to be an advantage to the MSOs' reach up-market. A targeted education program and ongoing, high-touch communications are critical gateways to solidifying brand credibility and relationships with mid-market sized businesses. By focusing this activity early in the sales cycle, MSOs can position themselves to influence selection of the solution, validate their value proposition and set client expectations, driving stickiness and brand loyalty.

Mid-market businesses want the same IT and telecom services and capabilities from their provider as the larger business, just on a smaller scale. As such mid-market businesses see high value in affordable bundles targeting business-specific and industry-specific needs. Creating comprehensive, customizable solution bundles, focused on increasing productivity and lowering operating costs, will drive the MSOs' move up-market, and enable them to successfully capture a higher share of the available budget from the mid-market sector.

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