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

In the Matter of	
Special Access for Price Cap Local Exchange Carriers;	WC Docket No. 05-25
AT&T Corporation Petition for Rulemaking To Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	RM-10593

REPLY COMMENTS OF VERIZON AND VERIZON WIRELESS

Michael E. Glover
Of Counsel

Christopher M. Miller
Curtis L. Groves
Verizon
1320 North Courthouse Road
9th Floor
Arlington, Virginia 22201
(703) 351-3084

Evan T. Leo
Kellogg, Huber, Hansen, Todd, Evans &
Figel, P.L.L.C.
1615 M Street, N.W.
Suite 400
Washington, D.C. 20036
(202) 326-7900

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In the few weeks since parties filed comments, evidence of the high-capacity marketplace's competitive and dynamic nature has continued to mount. For example, Comcast has announced that it "deployed Metro Ethernet now throughout [its] entire footprint," and that this service "is basically going up against the existing T1 service" because "T1s offer about a 1.5 megabit per second service, and [Comcast's] go from anywhere around 1 meg up to 10 gig."[2] Comcast's "Metro E" service is growing at about a 55% rate and therefore the company sees a significant opportunity for more investment.[3]

[1] In addition to Verizon Wireless, the Verizon companies participating in this filing are the regulated, wholly owned subsidiaries of Verizon Communications Inc. (collectively, "Verizon").

[2] Thomson Reuters Streetevents, *CMCSA – Comcast Corporation at Morgan Stanley Technology, Media & Telecom Conference*, Tr. at 11 (Feb. 26, 2013) (statement of Michael Angelakis, CFO, Comcast Corp.) ("Comcast Morgan Stanley Transcript"); Thomson Reuters Streetevents, *CMCSA – Comcast Corporation at 2013 dbAccess Media, Internet & Telecom Conference*, Tr. at 5 (Mar. 4, 2013) (statement of Neil Smit, EVP and President & CEO of Comcast Cable) ("Comcast Deutsche Bank Transcript").

[3] Comcast Deutsche Bank Transcript at 5.

This new evidence further reaffirms the marketplace's competitiveness, as shown by the recent experience involving Sprint's network modernization plan. Sprint conducted a competitive bidding process for its backhaul business in which it awarded contracts to more than two-dozen backhaul providers, including cable companies and other alternative carriers. Despite having bid for a significant amount of this business, Verizon largely was shut out. Verizon was awarded less than six percent of the sites in the Verizon incumbent footprint.

These developments highlight why the Commission's analysis of the high-capacity marketplace needs to be forward-looking and take into account all forms of competition. Whatever competition for high-capacity services may have looked like in the past, it is likely to be far more robust in the future because of the emergence of cable and other intermodal technologies, including fixed wireless. Moreover, as the undisputed record shows, demand for high-capacity services is growing, and much of the marketplace will be up for grabs. This creates opportunities for new competitors – as well as traditional CLECs – to invest and expand their networks. The mere likelihood and conditions for this new entry to occur is enough to discipline existing marketplace participants and ensure that special access prices remain just and reasonable over time.

Accordingly, the Commission must reject requests to rely on a traditional market power framework to analyze special access competition. As the Commission has repeatedly recognized, a traditional market power approach uses data that are both limited and static. A market power framework is not suited to dynamic marketplaces in which historical market shares poorly predict market power. And while some parties argue that it is difficult to measure potential competition, that is not a legitimate rationale for excluding it, but instead confirms the high-capacity marketplace's dynamic nature.

As parties on both sides of the debate agree, the Commission will also face considerable challenges constructing an econometric model to analyze competition for high-capacity services. In fact, there is little or no support for the Commission to rely exclusively or primarily on an econometric model. One problem is that a model based on a few historical snapshots cannot reliably predict the future, especially during the current period of rapid growth and technological change. Another problem involves the ILEC practice of offering discount plans with uniform prices across broad geographic areas, which makes it difficult to measure how competition affects prices.

Finally, just as the Commission must reject suggestions to ignore certain types of competition, it also must deny requests to analyze the terms and conditions of ILEC discount plans before its competition analysis is even complete. Where competition is adequate to protect customers, it is unnecessary to consider the specific terms and conditions on which that competition is occurring. In any event, the misplaced arguments to regulate terms and conditions are based largely on mischaracterizations of ILEC discount plans and antitrust precedent.

I. THE COMMISSION'S ANALYSIS MUST ACCOUNT FOR THE HIGH-CAPACITY MARKETPLACE'S DYNAMIC NATURE

A. The Commission's analysis must be forward-looking and capture all forms of actual and potential competition.

The marketplace for high-capacity services is undergoing a dramatic transformation. Demand for higher-capacity connections that enable more advanced services is growing. To fulfill their needs for these new capabilities, business customers of every variety are transitioning away from legacy special access services to IP-based broadband services. These services are available over a wide array of wireline and wireless networks that compete with one another and with ILEC special access. Competitive providers of high-capacity services are expanding their networks to capture this new and shifting demand, which places much of the marketplace up for grabs. The threat of this new entry disciplines all providers, including incumbent LECs, ensuring that special access prices will remain just and reasonable for the foreseeable future.

Given this ongoing transformation, both settled precedent and antitrust principles require the Commission to analyze competition for high-capacity services using a forward-looking framework, not one that relies primarily on historical snapshots. The Commission's analysis must consider not only competition that exists today, but also potential competition.[4] The focus must be on whether the high-capacity marketplace is "contestable" – that is, where competitors could deploy facilities and enter the marketplace.[5] The analysis also must consider all forms of competition – not only traditional CLECs, but also intermodal sources of competition that are capable of deploying high-capacity facilities more quickly and cost effectively.

When the Commission applies this analytical framework it will find extensive and growing competition for high-capacity services. For example, as Verizon demonstrated, cable companies and fixed wireless providers have been aggressively targeting the high-capacity marketplace – and particularly the high-growth business Ethernet and wireless backhaul

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[4] *Special Access for Price Cap Local Exchange Carriers*, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 16318, ¶ 69 n.152 (2012) ("*Notice*") (Commission's analysis "must take account of both actual and potential competition"); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853, ¶ 50 (2005) ("*Wireline Broadband Order*"); *Petition on Behalf of the State of Hawaii, Public Utility Commission, for Authority To Extend Its Rate Regulation of Commercial Mobile Radio Services in the State of Hawaii*, Report and Order, 10 FCC Rcd 7872, ¶ 26 (1995) ("evidence concerning dynamic factors" such as "[g]rowth and investment" is a "more persuasive market indicator than evidence concerning static factors" such as "prices or rates of return"); *MTS-WATS Market Structure Inquiry*, Second Report and Order, 92 FCC 2d 787, ¶ 133 (1982) ("Regulatory policy must take cognizance of the dynamic factors existing in the marketplace. It should not be based solely on static conditions existing today.").

[5] *See* Declaration of Kevin W. Caves & Jeffrey A. Eisenach ¶ 10 (attached hereto as Attachment A) ("Caves/Eisenach Decl.").

segments – by taking advantage of new, cost-effective technologies. As noted above, evidence of this competition continues to grow. Comcast has recently announced that it completed deployment of Metro Ethernet throughout its large footprint – an area Comcast estimates to have an "addressable market" worth "probably somewhere between $25 billion and $30 billion."[6] Comcast has indicated that in just "six or 12 months or so" it has achieved "just under sort of $400 million run rate."[7]

Unfortunately, none of the cable companies or fixed wireless providers filed comments regarding the Commission's analysis. This is not surprising: these parties have no incentive to share the extent of their competitive activities. Nonetheless, it is critical that the Commission collect data from these parties – who for the most part failed to provide it in the past – and factor into its analysis the full range of services these competitors provide today, and where they can provide competitive discipline in the high-capacity marketplace even in areas where they have not yet deployed service.

The Commission also must consider traditional CLECs' ability to expand their existing fiber and use other technologies to reach customers. In doing so, the Commission should not limit its analysis to an individual CLEC's particular business model or financial status, as some parties argue.[8] The Commission must instead determine where entry is or will soon be economically feasible. Where that condition is met, it is reasonable to conclude that entry could

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[6] Comcast Morgan Stanley Transcript at 10-11.

[7] *Id.* at 11.

[8] *See* Ad Hoc Telecommunications Users Committee at 6 ("Ad Hoc"); BT Americas, Cbeyond, EarthLink, Integra, Level 3, and tw telecom at 63 ("BT Americas *et al.*").

occur.[9] And as noted above, even the mere threat of entry will provide competitive discipline on special access prices.[10]

Some parties argue that the Commission should exclude potential competition from its analysis, on the premise that potential competition is too difficult to predict.[11] But the very factors that make these predictions difficult – the increasing demand for broadband and advanced services and the advent of new technology to satisfy that demand – are what makes it all the more critical to take this competition into account. The Commission cannot turn a blind eye to the forces reshaping the high-capacity marketplace simply because these forces are difficult to measure.

The Commission also must reject arguments to ignore certain types of advanced broadband services from its analysis merely because these services differ in some respects from traditional special access. In particular, the Commission must reject claims to exclude best-efforts broadband services (such as cable modem) from the competitive analysis.[12] In dynamic marketplaces it is common for new forms of intermodal competition to emerge that replace traditional services, even where those new services don't offer exactly the same capabilities.[13] Although not all customers may view cable modem service and special access as substitutes, that is irrelevant. Different services are considered to be part of the same product market so long as they are considered reasonably interchangeable by marginal consumers – that is, the subset of

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[9] *See* Caves/Eisenach Decl. ¶ 15.

[10] *See id.* ¶ 21.

[11] *See* BT Americas *et al.* at 74-75; New Jersey Division of Rate Counsel at 12; TelePacific at 4; Ad Hoc at 7.

[12] *See* Ad Hoc at 11; BT Americas *et al.* at 50-57; Sprint at 20-23.

[13] *See* Caves/Eisenach Decl. ¶ 22.

consumers who will switch between the services in the putative market in response to small changes in relative prices.[14] Thus, although cable modem services sometimes provide only "best efforts" rather than guaranteed speeds, and provide connections only to the Internet rather than between any two dedicated points, there is undeniably a subset of consumers for whom these differences are irrelevant.[15] And these marginal consumers ensure that cable modem services exert competitive discipline on special access services.

Finally, the Commission must reject arguments to exclude competition over facilities that are used to provide retail services to end-user customers but that are not offered on a wholesale basis to other competitive providers.[16] But it is well-settled that self-supply used in providing retail services must be included in a competitive analysis together with wholesale competition.[17] For example, cable operators that provide high-capacity services may choose not to make their facilities available to other carriers on a wholesale basis, but the cable companies' facilities must be included in the analysis just the same. This makes sense because the focus under both the Act

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[14] *See id.*

[15] *See, e.g.*, Matt Davis, IDC, *U.S. SMB Broadband 2012-2016 Forecast*, IDC #234554, at 4 (May 2012) ("IDC believes that at the end of 2011, almost 8.7 million U.S. business locations subscribed to some form of business-grade broadband service, and that figure will . . . grow to 9.9 million by year-end 2016. In general, we believe DSL and T1 or DIA penetration is on a slow and steady downward trajectory in terms of overall penetration. . . .[T]he growth of cable modem is certainly one of the drivers for this share loss"); Benjamin Swinburne *et al.*, Morgan Stanley Research, *Time Warner Cable Inc.: Outlook Disappoints, Capital Return Commitment Intact*, at 3, Exhibit 1 (Jan. 31, 2013) (reporting a 17.9 percent year-over-year growth for Time Warner Cable commercial cable modem subscribers).

[16] *See* BT Americas *et al.* at 58-59; Sprint at 21-22.

[17] *See, e.g.*, *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 389 (1999) (faulting the Commission for failing to consider carriers that self-provide facilities in evaluating competitive alternatives), and other cases cited in note 61 of Verizon's opening comments.

and the antitrust law is on whether there is competition for end-user customers, not on individual competitors and their particular business models.

B. The Commission should not rely on a static market power analysis.

The Commission should reject requests to use a static market power framework to analyze competition for high-capacity services.[18] As the Commission has repeatedly found, an "emerging and changing" marketplace should be evaluated "from the perspective of larger trends in the marketplace."[19] In this context, the Commission has rejected a "traditional market power analysis" including the process of defining geographic markets that is a hallmark of such an approach.[20] The Commission found that focusing on "specific geographic markets would force the Commission to premise findings on limited and static data that failed to account for all of the forces that influence future market development."[21] The Commission instead used a framework

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[18] *See* Ad Hoc at 5-9; BT Americas *et al.* at 48-49; Level 3 at 7-8; Sprint at 5-9.

[19] *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, Memorandum Opinion and Order, WC Docket No. 06-125, ¶ 20 (2007) ("*AT&T Forbearance Order*"); *Petition of the Embarq Local Operating Companies for Forbearance Under 47 U.S.C. § 160(c) from Application of Computer Inquiry and Certain Title II Common-Carriage Requirements*, Memorandum Opinion and Order, WC Docket No. 06-147, ¶ 19 (2007) ("*Embarq & Frontier Forbearance Order*"); *Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, Memorandum Opinion and Order, WC Docket No. 06-125, ¶ 23 (2008) ("*Qwest Forbearance Order*"). *See EarthLink, Inc. v. FCC*, 462 F.3d 1, 8-9 (D.C. Cir. 2006) (finding that FCC had "reasonably eschewed a more elaborate snapshot of the current market" in deciding whether to grant forbearance in light of its "view of the broadband market as still emerging and developing").

[20] *AT&T Forbearance Order* ¶ 20 n.80.

[21] *Id.* ¶ 20; *see Embarq & Frontier Forbearance Order* ¶ 19 ("Consistent with our approach in the [*AT&T Forbearance Order*], we find it appropriate, contrary to several parties' arguments, to consider marketplace conditions for these services broadly."); *Qwest Forbearance Order* ¶ 23 ("We also continue to believe . . . that it is appropriate to view a broadband marketplace that is emerging and changing, such as we find true here, from the perspective of the larger trends that are shaping the marketplace.").

that looked not only at the many existing providers of high-capacity services, but also at the competitors that could "readily" enter this market.[22] The Commission noted that it was not "essential" to have "detailed market share information" and that, moreover, it "would not give significant weight to static market share information" in this "emerging and evolving" marketplace.[23] The same type of forward-looking approach is warranted here.

The recent experience involving Sprint's network modernization plan (Network Vision) provides compelling evidence of the shortcomings of a market power analysis in the context of the high-capacity marketplace. Tellingly, Sprint neglects to mention Network Vision at all in its comments. But as Verizon has explained, Sprint recently opened its backhaul business to competitive bids for backhaul to approximately 38,000 sites.[24] As a result of this competitive bidding process, Sprint said it "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."[25] Although Verizon bid for a significant portion of this business, including all of the business within its incumbent footprint, Sprint awarded Verizon less than six percent of the sites in the Verizon incumbent footprint.[26] This experience shows not only that competitive

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[22] *Qwest Forbearance Order* ¶ 26.

[23] *Id*.

[24] *See* Ex Parte Letter from Tara S. Emory, Skadden, Arps, Slate, Meagher & Flom LLP, Counsel to Sprint Nextel Corporation, to Marlene Dortch, FCC, WT Docket No. 12-4, at 3 (July 12, 2012); *see* Verizon at 17.

[25] Carol Wilson, *Sprint To Reveal Backhaul Contract Winners Friday*, Light Reading (Oct. 5, 2011), http://www.lightreading.com/document.asp?doc_id=213050 (emphasis added).

[26] *See* Ex Parte Letter from Kathleen Grillo, Verizon, to Marlene Dortch, FCC, WC Docket No. 05-25 & RM-10593, at 2 (Sept. 12, 2012).

intermodal alternatives for high-capacity services are available and that companies like Sprint are using them in earnest, but also highlights the need for a forward-looking analysis that recognizes that current market shares are not a reliable indicator or predictor of the forward-looking state of competition.[27]

Another factor weighing against the use of a market power analysis is how ILECs price special access services.[28] Verizon's discount plans offer uniform prices across broad geographic areas. This is the result of historical regulation, but also is designed to meet enterprise consumers' needs, which often require services at multiple locations spread across the country. In order to attract customers, Verizon sets its prices to be competitive throughout these broader geographic areas, even though the level of competition may vary in different places within these areas.[29] As a consequence, customers that reside in areas with limited competitive alternatives get the benefit of prices that are set to be attractive to customers in areas with the most extensive competition.[30] For this reason, it would be improper – as well as administratively unworkable – for the Commission to attempt to define narrow geographic markets such as individual buildings or routes, as some parties argue.[31] As these same parties concede, "[u]niform prices across an

[27] *See* Caves/Eisenach Decl. ¶ 11.

[28] *See* BT Americas *et al.* at 73 ("At least in the case of DS1 and DS3 services, incumbent LECs do not appear to modify their prices based on the number of competitors that offer service in the relevant area. Rather, incumbent LECs generally charge the same DS1 and DS3 prices across a large region.").

[29] *See* Caves/Eisenach Decl. ¶ 12.

[30] *See id.* ¶ 13.

[31] *See* Ad Hoc at 5; BT Americas *et al.* at 59; Sprint at 7; TelePacific at 9.

incumbent LEC's territory would make it difficult to" reach "reliable conclusions about the extent to which incumbent LECs are subject to competition in the special access market."[32]

Finally, some parties argue that the *Qwest Phoenix Order* and Horizontal Merger Guidelines require the Commission to conduct a market power analysis.[33] They are mistaken. The *Qwest Phoenix Order* considered a petition for forbearance from loop and transport unbundling obligations, whereas the issue here is whether imposition of burdensome new regulations on ILEC special access services is warranted. Moreover, in the *Qwest Phoenix Order*, the Commission recognized that "a different analysis may apply" with respect to a marketplace that "continues to evolve and develop."[34]

The Horizontal Merger Guidelines also do not support the use of a market power analysis in this context. They are a tool for analyzing whether a given merger will "create, enhance, or entrench market power or [] facilitate its exercise."[35] They have nothing to say about whether – regardless of the degree of concentration that may exist in a particular market – retaining or eliminating a particular regulatory requirement serves the public interest or whether eliminating the requirement would enhance competition. Moreover, according to DOJ, market definition is

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[32] BT Americas *et al.* at 74.

[33] *See* BT Americas *et al.* at 49; TelePacific at 3; Sprint at 5; XO at 4-5.

[34] *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area*, Memorandum Opinion and Order, 25 FCC Rcd 8622, ¶ 39 (2010) ("*Qwest Phoenix Order*").

[35] U.S. Dep't of Justice & Federal Trade Comm'n, *Horizontal Merger Guidelines,* § 1 (2010), http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf.

particularly likely to produce unreliable results when confronted with quickly evolving markets and the effects of new technologies.[36] That is precisely the situation here.

II. THE COMMISSION SHOULD NOT RELY EXCLUSIVELY OR PRIMARILY ON AN ECONOMETRIC MODEL

A properly constructed econometric model can play a useful role in assessing the competitive dynamics of the high-capacity marketplace. But the Commission should not use an econometric model as its exclusive or primary tool for analyzing how competition affects prices for special access services. As both sides of the special access debate agree, it will be difficult to construct a reliable model given the dynamic nature and unique features of the marketplace. In all cases, the Commission's model must be fully transparent, so that parties have the opportunity to evaluate its structure to ensure that it does not contain errors that improperly bias the results.[37]

A. It is difficult to design a model that properly accounts for the high-capacity marketplace's dynamic nature.

As explained in Section I above, the Commission's analysis – regardless of approach – must account for the powerful forces that are reshaping the high-capacity marketplace. But designing a model that accounts for the marketplace's dynamic nature involves considerable challenges.

One key challenge is obtaining the data necessary to complete the model. The Commission's proposed econometric model is vulnerable to bias and inconsistency –

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[36] *See* Christine A. Varney, Ass't Att'y Cen., Antitrust Div., U.S. Dep't of Justice, Remarks as Prepared for the Horizontal Merger Guidelines Review Project's First Workshop, at 3 (Dec. 3, 2009), http://www.justice.gov/atr/public/speeches/252614.pdf (acknowledging "circumstances where the hypothetical-monopolist paradigm may be unhelpful or misleading," including situations involving "dynamic, high-tech markets where competitive interactions may be particularly difficult to assess.").

[37] *See* Caves/Eisenach Decl. ¶ 52; *see also* AT&T at 32-37.

"specification errors" – based on how it is constructed. The Commission has recognized that obtaining reliable and complete data in order to minimize or avoid those problems is crucial. But it is far from clear that the Commission will receive the data necessary to create a reliable model. As noted above, both cable and fixed wireless providers have avoided commenting here, and cable operators have recently complained to the Commission about the enormous burden they face in responding to the Commission's special access data request.[38] There is reason to be concerned that the Commission will not receive the data it needs to construct a reliable model – one that captures the capabilities of new technologies like cable and fixed wireless to provide competitive discipline.

Even assuming the Commission obtains the requested data, there will be further challenges. The Commission has sought data for two points in time, year-end 2010 and year-end 2012. As explained above, however, these historical periods are of limited utility in describing how competition for high-capacity services is likely to look going forward. Nor can the Commission simply ignore potential competition in its analysis, as some parties argue.[39] If the Commission is unable to design a model that properly takes into account all forms of actual and potential competition, the answer is not to discard inconvenient facts, but to highlight the shortcomings and acknowledge their effect on the model's utility and reliability.

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[38] *See* Letter from Steven F. Morris, National Cable & Telecommunications Association, to Marlene Dortch, FCC, WC Docket No. 05-25, at 1-2 (Feb. 28, 2013).

[39] *See* BT Americas *et al.* at 74-75; New Jersey Division of Rate Counsel at 12; TelePacific at 4-5; Ad Hoc at 7.

B. It is difficult to design a model that properly accounts for how special access services are priced.

Another set of challenges relates to how ILECs price their special access services. The Commission has indicated that it intends to use an econometric model to determine how competition affects price. But the manner in which ILECs structure their special access plans makes it very difficult to model this effect.

A first challenge is the fact that Verizon and other ILECs structure their discount plans to provide uniform prices across large geographic areas, even where the level of competition may vary across that area. This makes it difficult to draw conclusions about the state of competition at any given location based on the prices available at that location.[40] For example, BT Americas *et al.* note that while, "[i]n theory" the Commission could use a model "to identify the circumstances in which competition disciplines incumbent LEC prices," the fact that prices are "uniform . . . across an incumbent LEC's territory would make it difficult to rely on panel regressions to support reliable conclusions about the extent to which incumbent LECs are subject to competition in the special access market."[41] Indeed, as explained above, the fact that ILECs price uniformly across broad geographic areas ensures that customers throughout the region get the benefit of competitive prices, as these uniform prices are set at levels to attract customers in areas where competition is greatest. It is not clear how the Commission can properly address this issue, which is critical to a reliable model.

A second challenge is how to account for the terms and conditions that ILECs and other parties offer in their tariffs and contracts. Verizon offers customers 10 distinct, generally

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[40] *See* Caves/Eisenach Decl. ¶ 12-14.

[41] BT Americas *et al.* at 72, 74; *see also* Sprint at 11 ("developing an accurate model of prices and competitive investment will require a 'nuanced' approach incorporating 'a variety of factors,' including the complex relationship between prices and investment.").

available discount plans, and has also negotiated approximately 80 unique pricing flexibility contracts with customers, including wireless providers, enterprise customers, and carrier customers. Each of these plans and contracts contains a variety of negotiated terms and conditions that reflect numerous trade-offs between Verizon and its customers. The Commission's model must attribute economic values to the myriad non-price terms in these agreements and account for the differences among them. And, of course, Verizon is just one of many competitive providers, each of whom differentiates itself through a unique array of terms and conditions. Although comparing the terms and conditions of different providers introduces still further complication into the model, this analysis is essential in order for the model to be of value.

A further issue concerns whether the model should use "marginal prices," as Sprint urges, or the average prices that consumers actually pay, together with the other terms and conditions that factor into those prices. Sprint argues that "it is the marginal price (and not the higher average price) that determines the intensity of competition in the marketplace" because that is the price "a prospective competitor must 'beat' . . . in deciding whether to make the investment to expand its network in an attempt to 'win' business away from an incumbent LEC."[42] This is incorrect. Many customers – particularly larger customers – routinely place all or significant portions of their high-capacity needs up for bid every few years, often together with other communications services.[43] When this occurs, competitive providers are not competing against

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[42] Sprint at 14.

[43] *See, e.g.*, *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 FCC Rcd 18433, ¶ 52 (2005) ("Carriers that purchase wholesale special access services, whether Type I or Type II, are sophisticated customers that often rely on a competitive bid process or negotiate individual contracts, and that enter into long-term contracts."); *SBC Communications Inc. and AT&T Corp. Applications for*

the marginal price that a customer under an existing contract may be able to obtain when they seek to add incremental new capacity under that arrangement, but instead compete against the total or average price for the entire range of services that the customer seeks to purchase. In other cases, it is possible that the marginal price will matter, which means that the Commission at a minimum would need to identify those circumstances, and then limit the use of marginal prices only to those scenarios. But even this is problematic, as it is not clear how the Commission would go about determining marginal prices, which are not something that providers typically track. In all events, the Commission should focus on the prices that customers actually pay.

C. It is difficult to design a model with reliable benchmarks to compare special access prices.

A further challenge with the Commission's proposed economic model concerns the lack of reliable benchmarks by which to assess special access prices. Ordinarily, a model might compare an ILEC's prices in an area with multiple competitors to that same ILEC's prices in an area with little or no competitors to determine the impact of competition on price. As described above, however, this approach likely is not feasible here given the use of geographically uniform pricing. Some parties have therefore urged the Commission to compare ILEC special access prices to other "benchmarks." But none of the benchmarks these parties propose is appropriate for analyzing whether special access prices are reasonable.

First, it would be inappropriate for the Commission to compare tariffed special access rates and the TELRIC rates for similar services, as BT Americas *et al* urge.[44] The Commission

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Approval of Transfer of Control, Memorandum Opinion and Order, 20 FCC Rcd 18290, ¶ 52 (2005) (same).

[44] *See* BT Americas *et al.* at 70-71.

and the D.C. Circuit have found that TELRIC pricing "create[s] disincentives for incumbent LECs and competitive LECs to deploy innovative services and facilities"[45] and "discourage[s] . . . investment in innovation."[46] And the Commission has already found that the TELRIC pricing standard only applies to unbundled network elements and has specifically rejected using TELRIC pricing in other contexts, such as for tariffed special access services.[47] This conclusion also follows from the Supreme Court's determination that the pricing standard in § 252(d)(1) on which TELRIC is based is "radically unlike all previous [just and reasonable rate] statutes" and "appears to be an explicit disavowal of the familiar . . . model of rate regulation" under statutes such as § 201(b), "in favor of novel ratesetting."[48]

Second, it makes no sense for the Commission to "compare incumbent LEC wholesale prices for Ethernet and other packet-mode special access services with the wholesale prices charged by other incumbent LECs and by competitors, and with the retail prices charged by

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[45] *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 FCC Rcd 2533 ¶ 36 (2005), *petitions for review denied*, *Covad Communications Co. v. FCC*, 450 F.3d 528 (D.C. Cir. 2006).

[46] *United States Telecom Ass'n v. FCC*, 359 F.3d 554, 572 (D.C. Cir. 2004).

[47] *See Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking 18 FCC Rcd 16978, ¶¶ 656-657 (2003) ("*Triennial Review Order*") (subsequent history omitted); *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, ¶ 473 (1999) (subsequent history omitted); *see also* Brief for Amicus Curiae Federal Communications Commission at 18, *BellSouth Telecomms., Inc. v. Kentucky Pub. Serv. Comm'n*, Nos. 10-5310 & 10-5311 (6th Cir. filed Dec. 6, 2011) (TELRIC pricing does not apply to network elements offered outside of § 251, such as through special access tariffs: instead, "market rates" apply); *BellSouth Telecomms., Inc. v. Kentucky Pub. Serv. Comm'n*, 669 F.3d 704, 709 (6th Cir. 2012) (for tariffed special access services, the Commission's rules "bar[] the imposition of *any* rate other than the open-market rate," including TELRIC rates).

[48] *Verizon Communications Inc. v. FCC*, 535 U.S. 467, 489 (2002) (internal quotation marks omitted).

incumbent LECs and competitors for these services."[49] One ILEC's prices may not provide a reliable benchmark for another ILEC's prices because of a variety of factors that are unrelated to the amount of competition they face: they may operate under different regulatory regimes (rate-of-return versus price-caps); they may have different cost structures; they may serve different demographics; or other factors. For these same reasons, it also makes no sense to benchmark ILEC prices with the prices that CLECs charge. Moreover, comparing ILEC wholesale prices with ILEC retail prices also is misguided: there have been no allegations that ILECs are attempting to engage in a price squeeze. In any event, even where there is a small spread between wholesale and retail prices, that does not indicate an issue with wholesale prices; it could suggest extreme competition and low margins in retail segments.

III. IT IS PREMATURE TO ANALYZE TERMS AND CONDITIONS FOR SPECIAL ACCESS

Although the comments focus heavily on ILEC terms and conditions, these concerns are misplaced and premature. The Commission has recognized that, at this stage of the proceedings, there is "insufficient evidence" to make a finding regarding the state of competition for high-capacity services,[50] and until the Commission completes that analysis it cannot take steps to impose further regulation, much less take the extreme step of regulating terms and conditions before making factual findings. Accordingly, it would be a waste of Commission resources to analyze at this point whether the terms and conditions of special access are reasonable. In any event, even if the Commission were to analyze the terms and conditions on which ILECs provide

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[49] BT Americas *et al.* at 70-71; *see* TelePacific at 11.

[50] *Notice* ¶ 69.

special access, it would find further evidence of competition and that the terms and conditions are reasonable.

A. Verizon's pro-customer plans are economically justified.

As Verizon has explained, it offers many different special access discount plans that provide substantial benefits to a wide range of special access purchasers. Customers can choose from term-only or term-and-volume plans, both of which offer comparable discounts. These plans are voluntary and do not restrict customers' ability to obtain high-capacity services from Verizon's competitors or through self-supply, or require customers to enroll any particular percentage of their total purchases from all sources and providers in the plan. Nor do Verizon's plans "lock up" customers by basing discounts on a percentage of the customer's historic demand. Rather, when a customer's plan expires, the customer has many options, including migrating all of its circuits away from Verizon, renewing its existing plan, or choosing a different plan at a lower volume.

The terms and conditions of Verizon's plans reflect economic efficiencies associated with the additional predictability and certainty that Verizon's plans provide to customers. Customers determine how many circuits they wish to purchase from Verizon under these plans, and in exchange for their term commitments, customers receive added flexibility. Where customers make a volume commitment in addition to a term commitment they receive even further flexibility – such as greater ability to move circuits from one location to another – because the greater certainty and predictability that Verizon receives as a result of these commitments are what make it possible for Verizon to offer benefits such as circuit portability. Of course, once a customer makes a commitment, it is bound to honor it – a practice that even the CLECs criticizing ILEC terms and conditions acknowledge they practice as well.[51]

As the attached declaration of economists Kevin Caves and Jeffrey Eisenach explains, Verizon's terms and conditions are properly understood from an economic perspective as efforts to reduce transaction costs and address risk-sharing issues, and not as practices designed to discourage entry or impede competition.[52] First, as a basic economic matter, selling in greater bulk creates efficiencies by, among other things, reducing the number of individual transactions needed to sell a specified volume, increasing the supplier's certainty of doing business, and enabling fixed costs to be spread over a larger base.[53] No party contests that volume discounts are a legitimate practice, and CLECs themselves acknowledge they offer such discounts as well.[54]

Second, Verizon generally offers greater discounts under its plans to customers who commit to longer terms. Term-based discount plans provide Verizon with increased certainty that the circuits will be in service long enough to generate enough revenue to cover the up-front costs associated with provisioning special access, including labor and material costs. In economic terms, these arrangements deter "opportunistic behavior," which arises when a party to a commercial agreement seeks to renegotiate the agreement in its favor.[55] Indeed, with durable

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[51] *See* Declaration of James A. Anderson ¶ 13 ("to get the discounts they negotiated, XO does require them to make the purchases they bargained for"), *attached to* comments of XO.

[52] *See* Caves/Eisenach Decl. ¶¶ 26-48.

[53] *See id.* ¶¶ 36-37.

[54] *See id.* ¶ 37; *see also* Letter from Michael J. Mooney, Level 3, to Marlene H. Dortch, FCC, WC Docket No. 05-25 & RM-10593, at 9 (Feb. 22, 2012) ("there are legitimate business justifications for selling 1,000 circuits at a lower per-unit price than ten circuits").

[55] *See* Caves/Eisenach Decl. ¶¶ 32-33.

assets such as high-capacity facilities, it is common, efficient, and pro-competitive to have long-term contracts that ensure continuity.[56] Moreover, in many circumstances, the non-recurring charge for the initial installation of special access service is a negligible amount, far less than Verizon's up-front cost of provisioning the circuit. This puts the lie to Besen and Mitchell's argument that "[i]f a customer has paid a non-recurring charge for the costs that are specific to it and that cannot be recovered if the customer were to cease taking a service, the ILEC will have already recovered those costs from the customer and there is no justification for imposing a minimum contract term on that customer or, equivalently, imposing a charge if the customer fails to use the service for a minimum period of time."[57] Term-based plans therefore help ensure that Verizon can potentially earn a return on the investment required to provision the circuit.

Although some parties challenge the legitimacy of these efficiency justifications, their arguments are misplaced. Some parties argue that ILECs should not be able to claim efficiencies associated with greater certainty and predictability because "circuit portability and other benefits are conditioned on a competitor continuing to maintain a certain percentage of its historic purchase volume in service with the incumbent LEC, rather than a certain number of circuits."[58] But as Verizon has explained, its discount plans contain no such requirements. To the contrary, after a customer's plan expires, they are free not only to choose another provider, but also to enter into another Verizon plan at the same ***or lower*** volume.

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[56] *See id.* ¶ 34.

[57] Stanley M. Besen & Bridger M. Mitchell, *Alternative Provisions of ILEC Special Access Arrangements*, ¶ 57 (Feb. 11, 2013), *attached as* Appendix A to BT Americas *et al.* ("Besen/Mitchell Paper").

[58] BT Americas *et al.* at 34; *see* Besen/Mitchell Paper ¶ 41; *see also* TelePacific at 14; Sprint at 24-27; XO at 12-13.

Some parties also argue that ILECs should not be able to claim efficiencies associated with economies of scale because "[i]t is highly unlikely . . . that an ILEC's costs in providing special access to a particular customer in one of its service areas are affected to any significant degree by the amount of special access services that it provides to that customer in another area."[59] In fact, there are significant efficiencies – as well as benefits to consumers – in being able to aggregate purchases over broad geographic areas. In particular, Verizon gains much greater predictability regarding the overall volumes it will be required to provide when customers make commitments covering all of their purchases over a broad geographic area than it would if each localized purchase were subject to its own plan.[60] Moreover, customers benefit because they can qualify for greater discounts by aggregating volumes across multiple locations, and also get benefits such as circuit portability that committing to volumes over time make possible. And contrary to what some parties suggest, Verizon does not require customers to enroll in discount plans with broad geographic scope, but instead provides customers the option to negotiate for pricing flexibility contracts covering much narrower geographic regions such as a metropolitan statistical area ("MSA") or groups of MSAs.[61]

Finally, some parties argue that ILECs should not be able to claim efficiencies associated with greater ease of management and administration because these savings are "unrelated to the

[59] Besen/Mitchell Paper ¶ 42; *see also* BT Americas *et al.* at 35.

[60] *See* Caves/Eisenach Decl. ¶ 37 (noting that the efficiencies arising from Verizon's voluntary discount plans include "reducing the number of individual transactions needed to sell a given quantity of special access services (and hence decreased transactions costs).").

[61] For example, Option 34 in FCC No. 1, Section 21.35, limits the geographical scope of the contract to the New York MSA. Option 28 in FCC No. 1, Section 21.29, limits the scope to the New York and New Brunswick MSAs. Option 4 in FCC No. 1, Section 21.5, is limited to the Washington, Baltimore, Norfolk and Newport News MSAs.

volume commitments in incumbent LEC purchase agreements."[62] This argument does not rest on any factual support, but on the claim that "special access offerings are set forth in . . . tariffs, and the terms of these tariffs govern special access sales whether a competitor chooses to purchase services under a purchase arrangement with a volume commitment or not."[63] This is a non-sequitur. Verizon's tariffs provide volume discounts based on the reduced costs achieved when a customer purchases greater volumes or commits to a longer term. Under many of these tariffs, the discounts are greater as volumes increase.

B. Verizon's plans do not harm competition.

In an effort to obtain regulatory relief before the Commission even completes its analysis, the CLECs and some other parties argue that ILEC terms and conditions are impeding competition. They claim that the plans are designed to "lock up" competition through anticompetitive "loyalty" and "tying" practices.[64] These claims mischaracterize Verizon's plans and antitrust precedent and do not justify Commission intervention.

1. There is no evidence that Verizon's plans harm competition.

As an initial matter, although some parties argue that ILEC plans are anticompetitive, these claims are purely speculative. These parties do not provide evidence of anticompetitive harm. For example, they do not identify a specific instance where they were ready, able, and willing to migrate to a competitive supplier but for the terms of the ILEC discount plan.[65] To the contrary, these parties claim that *other* factors – such as the lack of other wholesale suppliers and

[62] BT Americas *et al.* at 35; *see also* Sprint at 26.

[63] BT Americas *et al.* at 35.

[64] *Id.* at 20-30; TelePacific at 14; Sprint at 24-27; XO at 12-13.

[65] *See, e.g.*, XO at 15-16.

high entry barriers – are the primary constraints they face, although they fail to provide meaningful support for these claims as well.[66] As shown above and in Verizon's comments, there is significant evidence of growing competition, including providers' ability to shift their purchases from ILECs to competitive suppliers. Sprint's recent network modernization bid is a case in point: it will be economically viable for Sprint to migrate a significant amount of its high-capacity backhaul away from ILECs to a wide range of competitive suppliers. There is no evidence in the record to indicate that other providers could not follow the same approach when their current commitments expire.[67]

2. Verizon's plans do not link discounts to commitments to purchase from Verizon a percentage of the customer's total purchases from all sources.

Some parties argue that ILECs "effectively require competitors to purchase a large proportion of their special access demand from incumbent LECs," citing Verizon's Commitment Discount Plan ("CDP") as an example.[68] The CDP imposes no such requirements. Indeed, Verizon's plans do not require the customer to commit a certain percentage or all of the customer's total high-capacity purchases from all sources to the plan they select or to Verizon generally. The CDP is a regional term-and-volume plan. The volume commitments a customer agrees to under this plan do require the customer to maintain, for the plan's duration, a specified percentage of the volume that it purchases from Verizon at the time it enrolls in the plan. But it does not require the customers to enroll a particular percentage of their total purchases from all sources in the plan. In exchange for their volume commitments under this plan, customers also receive added flexibility, such as the flexibility to disconnect and move circuits across the

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[66] *See* BT Americas *et al.* at 58-59, 68-69; XO at 5; Sprint at 21-22.

[67] *See* Caves/Eisenach Decl. ¶ 41.

[68] BT Americas *et al.* at 20-21; XO at 11-13; *see also* Sprint at 24-27.

applicable region. Moreover, Verizon allows the customer some flexibility to reduce its volume without incurring shortfall charges. If the customer falls below that reduced level during the term, it will incur shortfall charges. These charges do not prevent customers from choosing another supplier, but instead enforce the bargain struck between Verizon and the customer at the time the customer enrolls in a plan. In addition, even when shortfall charges apply, the customer generally is required to give up only a portion of the savings it received as a result of its original commitment.

Some parties further argue that higher month-to-month rates and termination penalties prevent them from moving a significant number of circuits away from Verizon.[69] This argument, too, ignores the full range of options that are available to a customer. For example, if a customer seeks to reduce its volumes from Verizon after its initial term-and-volume plan expires, it can switch from a term-and-volume plan to a term-only plan at the discount applicable to that term.[70] This enables the customer to reduce its volumes without significant penalties. Once the customer settles on the volumes it wishes to purchase from Verizon, it can re-convert to a term-and-volume plan and may be eligible for a time-in-service credit under the new term-and-volume plan. For example, take the case of a customer that committed to purchase 1,000 circuits for a three-year term but was purchasing only 900 circuits at the end of the term, consistent with the flexibility Verizon offers. If that customer decides to subscribe to the same plan for a new term with only 800 circuits, it can do so. If the customer elects that option, it also has choices in deciding how it wants to deal with the 100 remaining circuits. If the customer already has obtained circuits from another provider and it no longer needs the circuits, it may simply

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[69] *See* BT America *et al.* at 22-24; TelePacific at 12-14; XO at 9-14; Sprint at 32-34.

[70] *See, e.g.*, Verizon Telephone Companies, Tariff FCC No. 1, Section 25.1.8(C)(3).

terminate them. If it has not yet made arrangements or if it wants to transition the circuits to another provider, it may continue to purchase the 800 circuits on a month-to-month basis until it is ready to terminate the 100 circuits or until their migration is complete. Once the migration is complete and the customer is ready to enroll the 800 circuits in a new plan, it may do so, and the customer will receive the discount associated with the new volume and term commitment it makes.

3. Verizon's plans are not anticompetitive tying arrangements.

Some parties next attempt to portray Verizon's discount plans as anticompetitive "tying" arrangements. They claim, for example, that these plans "bear a close resemblance" to those at issue in several leading antitrust cases and that various academics have criticized as anticompetitive.[71] But in order to establish a tying violation there must be a finding of market power for a tying product, which has not been made and could not be supported. In any event, these claims also rest on a mischaracterization of Verizon's plans.

BT Americas *et al.* argue that Verizon's plans allow it to "leverage [its] dominance in the parts of [its] territory that are not subject to competition in order to gain or maintain market share in the parts that might be subject to competition."[72] They claim that, under the CDP, a customer in New York would be required "to maintain 90 percent of its historic purchase volume across legacy NYNEX territory" and therefore "must forego the opportunity to purchase services from an alternative wholesale provider, even in New York City, to obtain these benefits."[73] This is not true. Although Verizon's term-and-volume plans do provide discounts on a regional or

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[71] BT Americas *et al.* at 39-40; *see also* Sprint at 37.

[72] BT Americas *et al.* at 31.

[73] *Id.*

nationwide basis, the customer is not required to commit to purchasing only from Verizon, and can enroll in these plans without making significant volume commitments.

Some parties also argue that ILECs condition discounts on channel terminations, for which they claim ILECs have the most market power, on purchases of interoffice transport, for which they claim ILECs have less market power.[74] They do not cite a Verizon plan in which they believe this requirement is imposed, and in fact Verizon's generally available discount plans do not require customers to purchase interoffice transport from Verizon in order to receive discounts on channel terminations.

4. Verizon's plans do not run afoul of other antitrust precedent.

In a final attempt to short-circuit the competitive analysis and regulate special access terms and conditions, some parties argue that ILEC discount plans are "similar" to arrangements that some agencies and courts have found violate the antitrust laws.[75] These arguments fail.[76] There is in fact a strong presumption that single-product discounting arrangements, like those at issue here, benefit consumers because "cutting prices in order to increase business often is the very essence of competition."[77]

First, there is no basis to compare ILEC discount plans to the conduct that the FTC found problematic in its case against Intel.[78] That case alleged that Intel had offered volume discounts

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[74] BT Americas *et al.* at 31-32; *see also* TelePacific at 17.

[75] BT Americas *et al.* at 36.

[76] *See* Caves/Eisenach Decl. ¶¶ 42-48. As described in the Caves/Eisenach declaration, the analysis of the antitrust literature in the Besen/Mitchell Paper also is misplaced. *See id.*

[77] Hans Zegner, *Loyalty Rebates and the Competitive Process*, 8 Journal of Competition Law & Economics 717, 719 (2012) (citing *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039 (8th Circ. 2000)).

[78] *See* BT Americas *et al.* at 36-38.

to certain manufacturers on the express condition that the manufacturer purchase a certain share of its microprocessors from Intel rather than Intel's competitors. As demonstrated above, Verizon's discount plans neither contain such a requirement nor produce such a result.

Second, and for the same reasons, the Third Circuit's decision in *ZF Meritor v. Eaton* is inapposite. In that case, although there were no explicit purchase requirements at issue, there was a finding that a manufacturer of truck transmissions had conditioned discounts on a customer meeting purchase volume thresholds that ranged from 70 to 97.5 percent of the customer's total requirements.[79] As described above, however, Verizon's plans do not contain a similar requirement, and Verizon would have no way to track, much less enforce, any such requirement.

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Respectfully submitted,

/s/ Curtis L. Groves

Michael E. Glover
Of Counsel

Christopher M. Miller
Curtis L. Groves
Verizon
1320 North Courthouse Road
9th Floor
Arlington, Virginia 22201
(703) 351-3084

Evan T. Leo
Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C.
1615 M Street, N.W.
Suite 400
Washington, D.C. 20036
(202) 326-7900

March 12, 2013

[79] *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 265 (3d. Cir. 2012).

Attachment A

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

In the Matter of	
Special Access for Price Cap Local Exchange Carriers;	WC Docket No. 05-25
AT&T Corporation Petition for Rulemaking To Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	RM-10593

DECLARATION
OF
KEVIN W. CAVES AND JEFFREY A. EISENACH

March 12, 2013

CONTENTS

I. INTRODUCTION AND SUMMARY

1. We have been asked by Verizon[1] to provide our opinion with respect to certain economic issues raised in comments submitted in response to the Commission's FNPRM.[2] In preparing this declaration, we have reviewed selected comments and declarations filed in response to the FNPRM as well as previous filings in these proceedings. Materials relied upon are referenced specifically below.

2. Our declaration focuses on the competitive dynamics of markets for high capacity and special access services, the proposals from some commenters, including Level 3 and tw telecom, to proscribe certain terms and conditions under which special access services are offered by incumbent providers, and the potential for the Commission's data collection and econometric modeling efforts to enhance the Commission's understanding of the state of competition. For ease of exposition, we sometimes refer to those advocating pre-emptive regulation as "regulation advocates."

3. We reach three primary conclusions. First, the available evidence strongly indicates that the market for high capacity services is competitive and becoming more so. The regulation advocates' arguments, which rely primarily if not exclusively on simplistic measures of market structure, do not demonstrate either that traditional market power (the power to raise and sustain prices significantly above competitive levels) or exclusionary market power (the

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[1] In addition to Verizon Wireless, the Verizon companies participating in this filing are the regulated, wholly owned subsidiaries of Verizon Communications Inc. (collectively, "Verizon").

[2] *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket No. 05-25 & RM-10593, FCC 12-153 (Dec. 18, 2012) (hereafter *FNPRM*).

ability to raise rivals' costs or otherwise deter entry or harm competition in a way that ultimately diminishes consumer welfare) exists in markets for high capacity services.

4. Second, the contract terms and conditions that regulation advocates would have the Commission proscribe are presumptively efficiency-enhancing, not anti-competitive. Contrary to the regulation advocates' contentions, the discount plans Verizon offers represent paradigmatic examples of efficiency-enhancing contracts that generate benefits for customers and sellers alike. The restrictions regulation advocates propose on such contracts are not justified by either economic theory or empirical evidence, and would harm competition and reduce consumer welfare.

5. Third, the Commission has embarked upon a comprehensive program of data collection and analysis,[3] including building an econometric model, to assess competition in these markets. This process, if properly undertaken, has the potential to improve substantially the Commission's understanding of competition, and of the appropriate role, if any, for regulation. After more than a decade, it makes no economic sense to take the risk of imposing new (and potentially counterproductive) regulations just as the Commission is about to gain access to a substantial body of additional evidence and analysis.

6. The remainder of this Declaration is organized in five sections. Section II briefly describes our qualifications. Section III explains that the existing evidence indicates the market is competitive and becoming more so, and does not justify increased regulation. Section IV discusses the restrictions on the ILEC's voluntary discount plans certain of the ILECs' competitors seek and explains that the discounts are efficiency motivated and not

[3] *FNPRM* at ¶13 ("In this Report and Order, we require providers and purchasers of special access service and certain other services to submit data, information and documents to allow the Commission to conduct a comprehensive evaluation of competition in the special access market.")

anticompetitive. Section V discusses the Commission's current data gathering and analysis efforts and explains why the Commission should complete its analysis before imposing any further regulation on the markets at issue. Section VI presents a brief conclusion.

II. QUALIFICATIONS

7. My name is Kevin W. Caves. I am a Director at Navigant Economics. My business address is 1200 19th St NW, Suite 850, Washington, DC 20036. Navigant Economics is a wholly-owned subsidiary of Navigant Consulting Inc. (NYSE: NCI), a Chicago, Illinois-based consulting firm with offices throughout North America. I received my doctorate in economics from the University of California at Los Angeles in 2005, specializing in applied econometrics and industrial organization. I have held senior positions in the economic consulting industry for several years. My work has been cited and appeared in various popular and academic outlets, including *The Atlantic, The Economist*, *The Economists' Voice*, *Forbes, Information Economics & Policy, Journal of Competition Law & Economics, Labor Law Journal, Regulation, Review of Network Economics*, and *Telecommunications Policy*. I have authored and co-authored various filings, white papers, and expert declarations, primarily on topics related to network industries. My academic research has explored structural econometric techniques for the identification of production functions, evaluated theoretical frameworks for modeling the welfare effects of net neutrality regulation, and has also focused on quantifying price-driven wireless substitution in telephony through demand system estimation. A copy of my curriculum vita is at Exhibit A.

8. My name is Jeffrey A. Eisenach. I am a Managing Director and Principal in the Washington, DC office of Navigant Economics, LLC, a Visiting Scholar at the American Enterprise Institute, and an Adjunct Professor at George Mason University Law School, where I

teach the course on Regulated Industries. My business address is 1200 19th St NW, Suite 850, Washington, DC 20036. Navigant Economics is a wholly-owned subsidiary of Navigant Consulting Inc. (NYSE: NCI), a Chicago, Illinois-based consulting firm with offices throughout North America. I hold a Ph.D. in Economics from the University of Virginia and a B.A. in Economics from Claremont McKenna College. I have previously served in senior policy positions at the U.S. Federal Trade Commission and the White House Office of Management and Budget, and on the faculties of Harvard University's Kennedy School of Government and Virginia Polytechnic Institute and State University. I have been studying, writing about and teaching telecommunications regulation for nearly 20 years, and have published articles on telecommunications regulation in refereed journals such as the *Review of Network Economics* and *Telecommunications Policy*. I have also testified and/or submitted expert reports on communications matters before the U.S. Congress and the Federal Communications Commission (FCC), before regulatory agencies in numerous U.S. states and territories, and before regulatory bodies in several foreign countries, including Australia, Canada and Chile. My current affiliations include serving as a member of the Advisory Board for the Pew Project on the Internet and American Life and on the Board of Directors of the Information Technology and Innovation Foundation. A copy of my curriculum vita is at Exhibit B.

III. THE EXISTING ECONOMIC EVIDENCE DOES NOT SUPPORT INCREASED REGULATION

9. As the Commission rightly notes, the existing evidence does not support a finding that competition is insufficient to regulate special access prices or that regulation is necessary.[4] While the Commission has now set out to collect the data necessary to put to rest any doubts about the competitiveness of these rapidly evolving markets, the available evidence clearly

[4] See *FNPRM* at ¶69 ("At this time there is insufficient evidence in the record upon which to base general or categorical conclusions as to the competitiveness of the special access market.").

indicates the market is competitive and becoming more so. Regulation advocates make four primary arguments to the contrary:[5] The market is highly concentrated;[6] prices are at supracompetitive levels;[7] barriers to entry are high;[8] and, ILECs earn supra-competitive returns.[9] Each of these arguments is fundamentally flawed, either as a matter of theory, a matter of fact, or both.

A. Market Concentration Evidence Does Not Demonstrate Lack of Competition

10. Regulation advocates present various statistics showing that ILECs serve a large proportion of the "the market" for special access services. But neither their data nor their arguments regarding market concentration demonstrate that ILECs have market power. Their arguments fail for three primary reasons. First, traditional measures of market concentration (e.g., the proportion of buildings in which competitors actually serve customers) ignore potential competition – that is, the ability of competitors to discipline prices by increasing output and/or entering new markets. The appropriate measure of the extent to which competition disciplines prices, in other words, is not concentration, but contestability. The Commission has often recognized that high levels of market concentration do not necessarily imply a lack of

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[5] See generally, Comments of BT Americas, Cbeyond, Earthlink, Integra, Level 3 and tw telecom (February 11, 2013) at 13-18 (hereafter *BT et al Comments*); Comments of Level 3 Communications, LLC (February 11, 2013) (hereafter *Level 3 Comments*); Comments of The New Jersey Division of Rate Counsel (February 11, 2013) (hereafter *New Jersey Comments*).

Notably, these arguments have not changed appreciably since AT&T (the long distance company) filed the petition initiating this matter more than a decade ago. See e.g., Declaration of Janusz Ordover and Robert Willig on Behalf of AT&T (October 15, 2002). Ordover and Willig also argued that "RBOCs monopoly power over special access can harm competition in long distance services," a concern which of course has been obviated by the passage of time, and a precipitous drop – to zero – in the price of domestic "long distance services."

[6] See e.g., *BT et al Comments* at 14-19 (discussing ILECs' "Overwhelming Market Shares").

[7] See e.g., *BT et al Comments* at 2 ("High prices and suppressed competition in this market and in downstream business broadband service markets are costing U.S. businesses and consumers hundreds of thousands of jobs and billions of dollars in consumer welfare.")

[8] See e.g., *BT et al Comments* at 14-19.

[9] See e.g., *Level 3 Comments* at 4 ("[E]ach of the price-cap LECs … has been able to price such service at levels that earn supra-competitive returns.").

competition.[10] The ability of firms with small market shares to discipline prices is especially powerful in markets where competition takes place across a portfolio of services and firms have high fixed and low marginal costs, as is the case in markets for high capacity services.[11] Simply put, market concentration, in and of itself, does not imply market power.

11. Second, market concentration measures are inherently backward looking, and thus fail to capture the effect of rapid technological change such as is now taking place in high capacity services. In such markets, competition is more likely to occur "for" the market than within it. As the U.S. Department of Justice has explained:

> In any industry subject to significant technological change, it is important that the evaluation of competition be forward-looking rather than based on static definitions of products and services. Insight can best be gained by looking at product life cycles, the replacement of older technologies by newer ones, and the barriers facing suppliers that offer those newer technologies.[12]

High capacity services markets are experiencing rapid technological change on multiple levels, including the rapidly growing demand for Ethernet services. As Insight Research noted in a recent report, the effect of such changes is to "shift the market's balance of power, at least a bit,

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[10] See e.g., Federal Communications Commission, Office of Broadband Initiatives, *Connecting America: The National Broadband Plan* (March 2010) at 37 ("The lack of a large number of wireline, facilities-based providers does not necessarily mean competition among broadband providers is inadequate. While older economic models of competition emphasized the danger of tacit collusion with a small number of rivals, economists today recognize that coordination is possible but not inevitable under such circumstances. Moreover, modern analyses find that markets with a small number of participants can perform competitively.") (citations omitted).

[11] See e.g., Timothy J. Tardiff and Dennis L. Weisman, "The Dominant Firm Revisited," *Journal of Competition Law and Economics* 5(3) (2009) 517-536 at 530 ("[W]hen (i) firms compete by offering a portfolio of complementary services and (ii) they have relatively high fixed or sunk costs and low marginal costs, then the residual market power of the incumbents may be small, even when market shares are at levels that, by traditional standards, may be suggestive of dominance."); see also at 535 ("In telecommunications markets, in particular, where demand complementarities, multi-market participation, and high price/cost margins are the norm, traditional, single-market measures of market power are likely to seriously overstate extant market power.")

[12] *Ex Parte Submission of the United States Department of Justice, In the Matter of Economic Issues in Broadband Competition, A National Broadband Plan for Our Future,* GN Docket No. 09.51 (January 4, 2010) at 4. See also Michael L. Katz and Howard A. Shelanski, "'Schumpeterian' Competition and Antitrust Policy in High-Tech Markets," *Competition* 14 (2005) at 10 ("Under the Schumpeterian view that competition consists of repeated waves of innovation that sweep aside 'dominant' incumbents, current product-market shares may indicate very little about the future of the industry or about whether any given firm will possess significant market power.") (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=925707).

away from incumbents and other major carriers and towards less established, generally smaller players."[13] Backward looking measures of market concentration fail to capture the impact of such developments on competition.

12. Third, calculation of concentration ratios depends on market definition, and the appropriate definition of the geographic market for special access services is at best unclear. Indeed, the evidence, including evidence regulation advocates provide, suggests that a substantial proportion of special access services are contracted for in a national market, in which large, sophisticated companies enter into nationwide contracts to supply high capacity services, and where prices do not vary across geographies.[14] Such a market properly could be considered as a national market with differentiated products, in which differentiation is partially[15] defined by the match between each provider's unique geographic footprint and the characteristics of each buyer's unique geographic demands, and is one in which ILECs – rather than serving as geographic "monopolists" – compete head-to-head. Indeed, to the extent ILECs win "out of

[13] See Insight Research, *Carriers and Ethernet Services, Public Ethernet in Metro and Wide Area Networks, 2012-2017* (July 2012) at ("By creating a more 'level playing field,' improved interoperability and improved OAM tends to shift the market's balance of power, at least a bit, away from incumbents and other major carriers and towards less established, generally smaller players. The new standards, the emergence CEEs, and most importantly, the widening perceptions that Ethernet interoperability is reliable, and that Ethernet service generally is of adequate and measurable quality, tend to erode the advantages of incumbents to some extent 'democratizing' the market over time.") (hereafter *Insight 2012 Report*).

[14] See e.g., Declaration of Igal Hendel and Mark A. Israel, Attachment A to Comments of AT&T (February 11, 2013) (hereafter *Hendel and Israel Declaration*) at 17-18 ("AT&T's large customers, which make up the bulk of its special access revenue, often negotiate a single contract that covers all purchases of special access services throughout a multi-state region. Such agreements cover any location within that region and may involve purchases by a single customer of hundreds or even thousands of individual dedicated circuits."); *BT et al Comments* at 21, 74 ("At least in the case of DS1 and DS3 services, incumbent LECs do not appear to modify their prices based on the number of competitors that offer service in the relevant area. Rather, incumbent LECs generally charge the same DS1 and DS3 prices across a large region…."). TWTC acknowledges it makes buildout decisions based on customer revenues as well as building revenues. See *BT et al Comments*, Appendix C at 1 ("In assessing whether it is cost-effective to deploy its own loop facilities, TWTC determines whether the revenue opportunity associated with a given building *or a given customer* is large enough to justify construction.") (emphasis added).

[15] Other dimensions of differentiation may include the technology used to provide service (e.g., Ethernet vs. TDM), contract terms, etc.

territory" contracts that require them to provide service in "off-net" locations, ILECs must purchase services from other providers, including incumbents, just like other competitors.

13. Measuring concentration in such markets can be problematic, but one thing is certain: To the extent competition occurs in bidding markets for large enterprise customers that purchase services on a regional or national basis, the statistic produced by subtracting the percentage of buildings in a particular MSA that have been "lit up" by competitive providers from one hundred is devoid of economic content, and certainly is not indicative of market power in a relevant antitrust market.[16] Yet, regulation advocates repeatedly proffer that very statistic, in one form or another, as evidence of the ILECs' purported market power.

14. To the uncertain extent that concentration measures have any relevance at all in analyzing markets for high capacity services, the appropriate geographic market definition is likely national (or global), and a meaningful assessment of the competitive dynamics of such markets would need to reflect the reality that a variety of firms have comparative advantages in offering a different types of differentiated products. For example, according to Frost and Sullivan, the "dominant players in the U.S. long haul Ethernet services competitive landscape" are "Level 3, AT&T and Cogent."[17]

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[16] The Commission reached the same conclusion in its Verizon-MCI Order. See *In the Matter of Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket No. 05-75 (November 17, 2005) at ¶63 ("We find that [larger, multi-location enterprise customers] typically seek service from a provider that can serve all their locations, and generally only a few carriers serving a particular location have such capabilities. In light of the fact that there are relatively few providers that can offer a high level of ubiquitous service, we conclude that this geographic market should encompass all the geographic locations where these multi-location business customers may have a presence").

[17] See Frost & Sullivan, *Wholesale Carrier Ethernet Services Market* (2012) at 54.

B. Evidence on Market Entry Does Not Demonstrate Lack of Competition

15. Regulation advocates argue that entry into markets for high capacity services is difficult, pointing to construction costs, the need to procure state and local permits, and a variety of other tasks that all firms must complete if they wish to provide services to new locations.[18]

16. The analysis of entry barriers and the extent to which entry can police prices and competitive conduct can involve a variety of factors, as well as doctrinal debates over precisely what types of costs should be considered. Often, however, the best evidence of the ease of entry is whether it has occurred.[19] In markets for high capacity services, there is undeniable evidence of successful entry throughout the market.

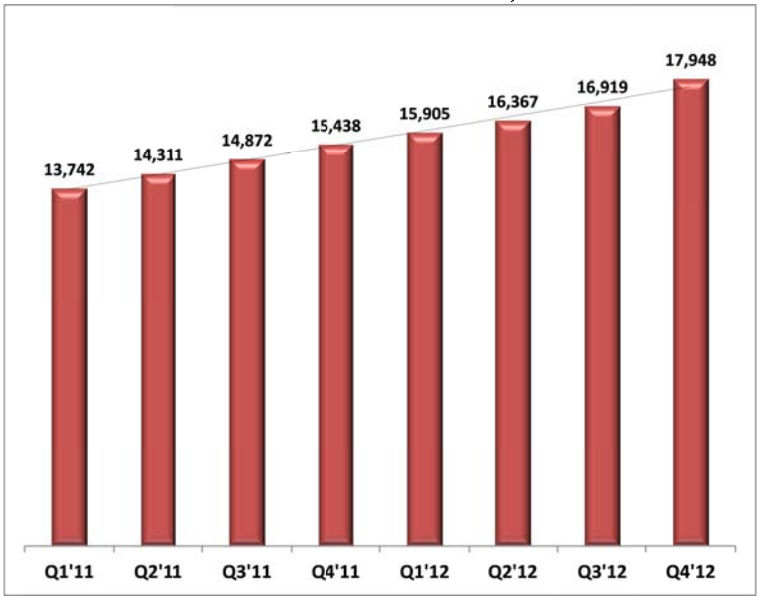
17. First, there can be no dispute that CLECs such as Cogent, Level 3, and tw telecom have successfully entered the market, that many of these firms are growing rapidly and indeed, as noted above, that such firms are now considered "dominant" providers in some product segments. For example, tw telecom reports that its revenues are growing by approximately 7.5 percent annually, that its net income grew by 33 percent from 2011 to 2012[20] and, equally importantly, that it is connecting approximately 1,500 new buildings each year, as shown in Figure 1 below, representing an increase of more than 30 percent in the past two years alone.

[18] *BT et al Comments* at 14-19, and at Appendix A, ¶54, n. 66.

[19] See e.g., U.S. Department of Justice, Horizontal Merger Guidelines (2010) at 28 ("The Agencies consider the actual history of entry into the relevant market and give substantial weight to this evidence.")

[20] tw telecom, "Supplemental Earnings Information, Fourth Quarter 2012."

FIGURE 1:
TW TELECOM ON-NET BUILDINGS, 2011 - 2012



Source: tw telecom, "Supplemental Earnings Information" (Q4 2012).

18. Similarly, there is no doubt that cable operators have successfully entered the market, won substantial market shares, and are considered likely to continue expanding in the immediate future. As Insight Research reports:

> The cable-based MSOs have become increasingly important as competitors. There has been a much increased cable presence in recent years, with expanding NNIs. The cable players will inevitably expand their already substantial aggregate market share, close to 30 percent. Comcast, by far the largest MSO, has been selling Ethernet aggressively on a quasi-national basis.[21]

As the Insight report notes, cable companies possess important market advantages, including "comprehensive infrastructure footprints" and the perception of being "more deeply rooted in local communities than incumbents."[22]

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[21] *Insight 2012 Report* at 99.
[22] *Insight 2012 Report* at 99.

19. Wireless providers have also entered successfully. For example, as Verizon has noted, fixed wireless provider Conterra provides Ethernet broadband services to nearly 2,000 sites in 25 states and is the 6th largest holder of FCC microwave licenses in the U.S.[23]

20. While it is possible to concoct market share statistics showing that ILECs taken together connect more buildings than CLECs, the evidence of successful entry by cable companies, CLECs and fixed wireless providers demonstrates that entry is not just feasible, but actually taking place and, according to market observers, likely to accelerate.[24]

21. In these circumstances, there can be no question that market incumbents of all types recognize that entry is feasible, even in areas where it has not occurred. This realization – the perceived *threat* of competitive entry – is the mechanism by which potential competition ensures competitive outcomes.

22. The successful entry of cable, wireless and CLEC competitors, many of them offering differentiated products, also highlights the fact that competition in differentiated product markets does not take place for infra-marginal customers but for marginal ones, that is, for customers who are indifferent or nearly so among the various product offerings. Furthermore, the ability of competition to police prices in such markets is not determined by whether a

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[23] See Conterra Broadband Services, *High Speed, Low Latency Financial Exchange Connectivity* (2012), http://www.conterra.com/low-latency.html. See also Comments of Verizon and Verizon Wireless (February 11, 2013) at 25.

[24] This finding is supported even by sources upon which regulation advocates rely heavily. The NRRI study, for example, concludes that "Cable television and fixed wireless have low entry and exit costs where their networks are currently established, and each can provide substitutable dedicated services to many customers. Overall, these competitors are still acting on the fringes of special access markets, but they have larger roles in some locations and their market shares appear to be growing. These newer technologies may be poised to become major competitors and are increasingly constraining ILEC behavior; but they have not yet grown beyond fringe competitors in most markets." (See Peter Bluhm and Robert Loube, *Competitive Issues in Special Access Markets* (Revised Edition), National Regulatory Research Institute (January 21, 2009) at iv (hereafter *NRRI Report*). Note that NRRI's conclusions were based on data collected in 2007 and 2008. There appears to be no dispute that competition has increased in the interim; however, even if it had not, it is not clear what NRRI means by "fringe competitors," since, as noted above, it is not necessary for competitors to have large market share in order to discipline prices.

sufficient number of customers, facing a price increase above competitive levels, would switch to any single alternative, but rather whether a sufficient number would switch to all available alternatives taken together.

C. Pricing Data Does Not Demonstrate Lack of Competition

23. The absence of clear data on the prices charged for high capacity services is one of the factors that led the Commission to embark upon its current data collection and analysis efforts.[25] Regulation advocates cite anecdotal evidence of ILEC price increases,[26] but the evidence also shows that special access prices have declined significantly since the introduction of pricing flexibility.[27]

24. More to the point, for reasons that have been argued repeatedly and do not require repeating here, even if prices were increasing, time series evidence on pricing can hardly be used to infer that market power exists, especially in the face of changes in market demand, product quality and so forth.[28] Moreover, a finding that prices are rising even as competition is increasing (as discussed above) would contradict, rather than support, regulation advocates' arguments that more competition is needed to produce lower prices.

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[25] *FNPRM* at ¶36 ("We require price data to characterize competition in the market for special access services.").

[26] See, e.g., Letter from Erin Boone to Marlene H. Dortch, Re: Special Access NPRM, WC Docket No. 05-25 & RM-10593 (June 28, 2012).

[27] See e.g., Declaration of Michael D. Topper On Behalf of Verizon and Verizon Wireless, *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers* WC Docket No. 05-25 & RM-10593 (January 19, 2010) (hereafter *Topper Declaration*) at 37, n. 115. The *NRRI Report* states that "Our analysis of pricing trends (nominal dollars) gave inconclusive results." (*NRRI Report* at iv.)

[28] See *Topper Declaration* at 38-39; see also Supplemental Declaration of William E. Taylor On Behalf of Verizon, *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers* WC Docket No. 05-25 & RM-10593 (August 8, 2007) at ¶32 ("No economic cost model of a multi-product firm with significant fixed and shared-fixed costs, such as telecommunications, can provide a measure of market prices for the simple reason that market prices are determined by the interaction of supply and demand, and cost models can only approximate supply characteristics.")

D. Evidence on Rates of Return Does Not Demonstrate Lack of Competition

25. Finally, regulation advocates continue to argue that one can infer that market power exists from accounting data on ILEC rates of return.[29] This debate has been going on for the entire length of this proceeding, but regulation advocates have made little progress, and for good reason. In their December 2002 joint declaration on behalf of Verizon, Alfred Kahn and William Taylor addressed this argument as put forward by AT&T experts Janusz Ordover and Robert Willig, and in so doing reminded the Commission of Professor Willig's conclusion, in an academic article published in 1987 conclusion that "Fully allocated cost figures [such as those in the ARMIS data] and the corresponding rate of return numbers simply have zero economic content."[30] No doubt based in part on this exchange, the Commission rightly concluded in 2005 that "high or increasing rates of return calculated using regulatory cost assignments for special access services do not in themselves indicate the exercise of monopoly power."[31] Regulation advocates have given the Commission no basis for altering its conclusion.

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[29] See e.g., *Level 3 Comments* at 4 ("[E]ach of the price-cap LECs … has been able to price such service at levels that earn supra-competitive returns."); *New Jersey Comments* at 2 (referring to the "existing flawed regulatory system, whereby carriers earn excess profits….")

[30] See Declaration of Alfred E. Kahn and William E. Taylor On Behalf of BellSouth Corporation, Qwest Corporation, SBC Communications, Inc., and Verizon, *In the Matter of AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM No. 10593 (Dec. 2002) at 9, citing W. J. Baumol, M. F. Koehn and R.D. Willig, "How Arbitrary is 'Arbitrary'? – or, Toward the Deserved Demise of Full Cost Allocation," *Public Utilities Fortnightly* 120;5 (September 3, 1987) at 21.

[31] *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers and AT&T Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, WC Docket No. 05-25 and RM-10593*, Order and Notice of Proposed Rulemaking (January 31, 2005) at ¶ 129, citing Franklin M. Fisher & John J. McGowan, "On the Misuse of Accounting Rates of Return to Infer Monopoly Profits," *American Economic Review* 73 (1983) at 83.

IV. VERIZON'S VOLUNTARY DISCOUNT PLANS ARE PRESUMPTIVELY EFFICIENCY-MOTIVATED, NOT ANTICOMPETITIVE

26. Regulation advocates allege that the terms and conditions contained in some aspects of the ILECs' special access discount plans, including volume- and term-based discounts, cannot be explained by efficiency justifications and instead are designed to discourage entry and harm competition. They are wrong on both counts. As we show in this section, the contracting practices Verizon uses are best understood as efforts to reduce transactions costs and address risk sharing issues, i.e., to address precisely the types of contracting issues that typically lead to the adoption of such vertical restrictions, which are well-understood to be efficiency enhancing. Moreover, regulation advocates' efforts to cast these contractual terms as anticompetitive are fatally flawed both theoretically and empirically.

27. Verizon offers various forms of voluntary discounts to customers purchasing special access services in exchange for commitments of term and volume. Verizon offers two broad categories of generally available discount plans: First, so-called "term-only" discount plans offer discounts in exchange for a commitment of term for a specific circuit. These plans have term commitments typically ranging from one to ten years, with larger discounts given for longer terms.[32] Second, Verizon's "term-and-volume" discount plans allow for additional flexibility through circuit portability: In exchange for customer commitments to keep specified circuit levels in service, these plans offer the flexibility to add or disconnect individual circuits while still satisfying the customer's overall volume commitment. Under a term-and-volume discount plan, a customer may disconnect and move circuits anywhere within the applicable region. In the case of Verizon's National Discount Plan (NDP), this migration can occur

[32] See, e.g., Letter from Donna Epps, Vice President, Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Re: Special Access Rates for Price Cap Local Exchange Carriers, WC Docket No. 05-25 and RM-10593 (March 27, 2012) (hereafter *3/27/2012 Letter*), at 4-5.

anywhere in Verizon's nationwide footprint. Term commitments for term-and-volume discount plans typically range from two to ten years, with larger discounts given for longer terms, and (in some cases) for higher volumes.[33] Verizon's volume-based discount plans are based on the customer's purchase volumes with Verizon at the time of enrollment (as opposed to historical purchase volumes). The percentage discounts available in term-only discount plans are comparable to those offered under term-and volume discount plans.[34]

28. Verizon also offers tariffed, negotiated pricing flexibility contracts to certain (typically large, sophisticated) purchasers, such as wireless providers, enterprise customers, and carrier customers.[35] These individually negotiated contracts typically offer discounts in exchange for term commitments, and as well minimum annual revenue or volume commitments. Like Verizon's generally available term-and-volume plans, these contracts typically allow customers to add or drop specific circuits provided overall term and volume requirements are satisfied.[36]

29. Importantly, none of Verizon's discount plans requires that a customer purchase special access services exclusively from Verizon, nor do the contracts require that customers purchase some minimum share of their total special access purchases from Verizon.[37]

30. Regulation advocates characterize ILEC discount plans as "exclusionary purchase arrangements," which "perpetuate and exploit the incumbent LECs' position in the markets for DS1 and DS3 special access services."[38] They also claim that ILEC discount plans have no efficiency justification, and that they ultimately result in higher special access prices by (1)

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[33] *3/27/2012 Letter* at 5-6.

[34] The discounts available under Verizon's term-only plans range from 5 to 52 percent, with generally greater discounts for longer term commitments. Likewise, discounts available under Verizon's term-and-volume plans range from 5 to 52 percent for the most highly-subscribed term-and-volume plan (the Commitment Discount Plan), and from 29 to 51 percent for the National Discount Plan. *3/27/2012 Letter* at 5-6.

[35] *3/27/2012 Letter* at 6-7.

[36] *3/27/2012 Letter* at 6-7.

allowing ILECs to increase special access prices without the threat of losing sales to alternative providers; (2) depriving alternative providers of scale economies; and, (3) diminishing competitors' incentives to invest in research and development.[39] As explained below, these claims are without merit.

A. Verizon's Voluntary Discounts Facilitate Economic Efficiency

31. Regulation Advocates assert that ILECs' special access discount plans lack plausible efficiency justifications.[40] Yet contracts stipulating term and volume commitments are commonplace in virtually any economy, and are widely understood to be consistent with competition and economic efficiency. The fundamental economic rationale for such arrangements is that value is created when buyers and sellers are able to credibly commit to an ongoing relationship (and/or a large volume of sales) instead of having to engage in a series of piecemeal transactions that would involve greater risk and/or increased "transaction costs," thereby diminishing (or perhaps eliminating) the aggregate value of the economic exchange to both parties. These efficiencies give rise to various long-term vertical contracting relationships. Real world examples of such arrangements include apartment or real estate leases, athletic club memberships, high-volume "big box" retailers (which may also require memberships), long-term leases for automobiles or other machinery, employment contracts, and so on.

32. What all such arrangements have in common is that the seller offers a lower price for a good or service in exchange for the certainty of a guaranteed revenue stream over a given timeframe (and/or a guaranteed sales volume). Thus, an apartment can be rented for a lower price per day than an equivalent hotel room; similarly, a given make and model of automobile

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[37] *3/27/2012 Letter* at 2-3.
[38] *BT et al Comments* at 4-5.
[39] *BT et al Comments* at 34-36.
[40] *BT et al Comments* at 5.

will command a higher per-day rate in a one-week rental agreement than in a two-year lease. What makes such arrangements enforceable is the existence of long-term contracts with terms and conditions that penalize what economists refer to as "opportunistic behavior."[41]

33. The potential for opportunistic behavior arises whenever one party faces incentives, after a commercial agreement has been reached, to re-interpret or re-negotiate the terms of the arrangement to its advantage in a manner that shifts the allocation of benefits, costs, or risks in its favor. For example, a party that has signed a one-year lease for a two-bedroom apartment might later desire, after a few months, to downgrade to a (less expensive) studio apartment. The individual may therefore face economic incentives to renege on the original lease in the absence of economically enforceable penalties for doing so.[42] All else equal, the prospect of such risks would induce the apartment owner to demand higher rental prices in the first place, reducing the volume of rental transactions below their economically efficient level. Economically enforceable long-term contracts have long been recognized as a mechanism for mitigating the risks associated with *ex post* opportunism in vertical relationships, allowing both parties to the transaction to credibly pre-commit to a more efficient arrangement.[43]

34. When viewed from this perspective, Verizon's voluntary discount plans are *prima facie* efficiency motivated and procompetitive. In particular, term-based discounts (such as Verizon's term-only discount plans) allow Verizon and its customers to credibly commit to

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[41] See, e.g., Benjamin Klein, Robert Crawford, and Armen Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," 21 *Journal of Law and Economics* (1978) at 297-326 (hereafter *Klein, Crawford, and Alchian*), at 302; see also Oliver E. Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications* (Free Press 1983).

[42] Alternatively, the owner-lessor of a piece of property or equipment might opportunistically choose not to incur the costs necessary to properly maintain the property, thereby increasing the effective rental price to the user-lessee. See *Klein, Crawford, and Alchian* at 302.

[43] See, e.g., *Klein, Crawford, and Alchian* at 302 ("The primary alternative to vertical integration as a solution to the general problem of opportunistic behavior is some form of economically enforceable long-term contract.")

doing business over a multi-year period, effectively aggregating a series of sequential transactions into one. Verizon benefits by avoiding the transactions costs and risks associated with the possibility that any of its revenue-generating circuits might otherwise fail to generate revenue in any subsequent year. This increases the likelihood that circuits will remain in service long enough to generate enough revenue to cover up-front costs associated with provisioning special access, such as labor and material costs. This, in turn, increases the likelihood that Verizon will be able to realize an economic rate of return on the investment required to provision the circuit.

35. In exchange for this increased certainty, Verizon allows customers to share in these benefits in the form of lower prices. Customers also benefit from the certainty of having circuits available at a known price for an extended time, and from avoiding the transactions costs associated with having to renew and/or change providers and/or plans at more frequent intervals.

36. Discounts incorporating volume commitments (i.e., Verizon's term-and-volume discount plans) operate in much the same way. Indeed, term-based discounting can be viewed as a form of volume-based discounting, since in each case the net present value (NPV) of the buyer's expenditures per unit decreases with the quantity of special access services purchased over a given timeframe. That is, in both cases, buyers are entitled to a lower price per unit when they commit to purchasing a larger volume over a given timeframe.

37. The ability to engage in these high-volume transactions generates well-established efficiencies, including reducing the number of individual transactions needed to sell a given quantity of special access services (and hence decreased transactions costs), decreasing the risk associated with reaching a given volume/revenue target, and realizing scale economies, by allowing fixed costs to be spread over a larger customer base. Even regulation advocates do not

dispute that volume discounts are a legitimate business practice.[44] Yet they ignore the fact that term discounts also generate a symmetric set of efficiencies, and that both term-only discounts and term-and-volume discounts accomplish the general objective of smoothing ILECs' expected special access revenue streams (both over time and across circuits), with buyers and sellers sharing in the benefits derived from decreased volatility and increased predictability. Thus, the regulation advocates' claim that the ILECs' voluntary discount plans are not justified by economic efficiency considerations is unfounded.[45]

38. The regulation advocates' economists ("RA Economists") claim that voluntary discounts conditioned on the percentage of a customer's purchases from Verizon (rather than the quantity purchased) are inconsistent with efficiencies flowing from scale economies.[46] As discussed above, the efficiencies generated by Verizon's voluntary discounts include, but are not limited to, efficiencies driven by scale economies. To illustrate, note that scale economies are not required in order to realize the efficiencies associated with predictability and certainty in, say, an apartment lease, because efficiencies flow from increased certainty in the building owner's revenue stream, which increases the likelihood of earning an economic rate of return on his real estate investment. Likewise, Verizon's voluntary discount plans increase the likelihood that circuits will remain in service long enough for Verizon will be able to realize an economic rate of return. These efficiencies are obviously greater when customers commit to maintaining a higher proportion of their circuit levels purchased from Verizon in service.

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[44] *See* Letter from Michael J. Mooney to Marlene H. Dortch, Re: Special Access Rates For Price Cap Local Exchange Carriers, WC Docket No. 05-25 & RM-10593 (February 22, 2012) at 9 ("there are legitimate business justifications for selling 1,000 circuits at a lower per-unit price than ten circuits").

[45] See *BT et al Comments* at 34-36.

[46] See Stanley M. Besen and Bridger M. Mitchell, "Anticompetitive Provisions of ILEC Special Access Arrangements," (hereafter *Besen and Mitchell*) (attached as Appendix A to *BT et al Comments*), at ¶41. As noted above, Verizon's term-and-volume discount plans are based on the customer's purchases with Verizon when they enroll in the plans, as opposed to historical volumes.

B. Verizon's Voluntary Discounts Do Not Require Large Share Commitments

39. The RA Economists claim that "contracts that require a customer to make a very large fraction of its purchases from one supplier in order to obtain a significant discount or avoid a significant penalty, effectively serve as a 'tax' on purchases from competitors of that supplier."[47] Indeed, as discussed below, a hallmark of the anticompetitive bundling literature RA Economists cite is that buyers incur penalties for making purchases with rivals – yet Verizon's voluntary discount plans do not impose such penalties. Accordingly, the economic literature the RA Economists rely upon fails to support their arguments.

40. While acknowledging that the ILECs' voluntary discount plans "do not explicitly require [that buyers] make a very large percentage of its special access purchases from the ILECs,"[48] the RA Economists attempt to skirt this fundamental contradiction by claiming that "the effect" of the voluntary discount plans is somehow "to condition discounts, or the avoidance of penalties, on this percentage."[49] However, the RA Economists do not and cannot substantiate this assertion, as it is not supported by the facts. First, as noted previously, Verizon's voluntary discount plans do not require that buyers commit a large share (or indeed any minimum share) of their aggregate special access requirements: Verizon's voluntary term-and-volume discount plans pertain to "a specified percentage of the volume that [the buyer] purchases *from Verizon* at the time it enrolls in the plan."[50] Second, whenever a buyer's contract expires, any subsequent discounts are untethered to the buyer's previous purchase volumes of special access services:

> When a customer's plan expires, the customer has many options, including migrating all of its circuits away from Verizon… A customer in a volume-and-term plan may, at the end of the term, also choose to renew that plan, or enter into

[47] *Besen and Mitchell* ¶14.
[48] *Besen and Mitchell* ¶7.
[49] *Besen and Mitchell* ¶7.
[50] *3/27/2012 Letter* at 5 (emphasis added).

a different volume-and-term plan (e.g., the NDP), but at a lower volume… when a customer renews, *discounts are not based on the customer's past volume, but on the volume commitment going forward*.[51]

41. Furthermore, the notion regulation advocates advance that buyers are somehow too "dependent"[52] on ILECs to migrate significant special access volumes to non-ILEC competitors is belied by their own comments. For instance, Level 3 has stated that up to half of its own demand for special access services could be met by competitive alternatives.[53]

42. The RA Economists rely on a presentation by Fiona Scott-Morton, Deputy Assistant Attorney General of the U.S. Department of Justice (DOJ), entitled "Contracts that Reference Rivals."[54] As the title suggests, the presentation is concerned with contracts between a buyer and seller that depend on "information *outside* the buyer-seller relationship: information from other transactions to which those same firms are party."[55] An example of such a contract is

> a purchase agreement containing a market share discount: the buyer will receive a discount on incremental units, or perhaps all purchased units, if it buys 90% or more of its needs from one seller. Note that the price the buyer pays on its purchases from one seller are [sic] *linked* to its purchases at rival sellers. Buying more than 10% of its needs from the rival sellers will increase the price paid in the contract.[56]

RA Economists' reliance on Scott-Morton is thus wholly misplaced: Her presentation deals with contractual structures that are simply not present in the ILEC's voluntary discount plans, which are conditioned not on purchases from rivals but instead on purchases from the seller itself.

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[51] Letter from Evan T. Leo to Marlene H. Dortch Re: Special Access Rates for Price Cap Local Exchange Carriers, WC Docket No. 05-25, RM-10593 (July 16, 2012) at 4-5.

[52] *Besen and Mitchell* ¶¶3-6.

[53] Letter from Michael J. Mooney, General Counsel, Regulatory Policy Level 3 Communications, LLC to Marlene H. Dortch Re: Special Access NPRM, WC Docket No. 05-25 and RM-10593, Level 3 Follow Up On Proposed Special Access Remedy (October 31, 2012) at 2.

[54] *Besen and Mitchell* ¶¶13, 51, citing Fiona Scott-Morton, "Contracts that Reference Rivals," Georgetown University Law Center (April 5, 2012), available at http://www.justice.gov/atr/public/speeches/281965.pdf (hereafter *Scott-Morton*).

[55] *Scott-Morton* at 2 (emphasis in original).

[56] *Scott-Morton* at 2 (emphasis in original).

43. The RA Economists also cite a discussion paper by DOJ economists Patrick Greenlee and David Reitman, which states clearly in the introduction that "loyalty discounts typically require allocating a substantial share of total purchases to a single supplier. The term 'market share discount' is often employed to describe this pricing strategy."[57] The authors go on to model loyalty discounts explicitly in terms of market share requirements.[58] In a subsequent published paper, Patrick Greenlee, David Reitman, and David Sibley model bundled loyalty discounts as arrangements "in which customers receive a price break on the monopoly good in exchange for making all purchases from the monopolist."[59]

44. Similarly, the RA Economists cite to an expert declaration of Professor Einer Elhauge, who has written extensively on loyalty discounts. However, as we now explain, the declaration in question involved an analysis of market share discounts unlike those contemplated by Verizon's voluntary discount program. Elhauge's declaration addresses the following hypothetical situation:

> Suppose a monopolist charges $200 for a product that costs $100 to make. Other firms stand poised to enter the market, or to expand until they achieve sufficient scale to reduce their costs to $100, in which case competition will drive prices down to $100. To prevent this competitive outcome, the monopolist announces a loyalty program under which its price is $250 unless buyers agree to be loyal and buy 90% of their needs from the monopolist, in which case buyers get a nominal "discount" of $50. All the buyers agree to avoid the $50 price penalty, foreclosing 90% of the market. As a result, rivals cannot enter, or expand enough to achieve their minimum efficient scale, and the buyers all continue to pay the monopoly price of $200, which is double the $100 price they would have paid but for the loyalty program.[60]

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[57] Patrick Greenlee and David Reitman, "Competing with Loyalty Discounts," U.S. Department of Justice EAG Discussion Paper 04-02, (revised Jan. 7, 2006) (hereafter *Greenlee and Reitman 2006*) at 1, available at http://www.wcas.northwestern.edu/csio/Conferences/Papers2006/GreenleeandReitmanpaper.pdf.

[58] *Greenlee and Reitman 2006* at 8.

[59] Patrick Greenlee, David Reitman, and David Sibley, "An Antitrust Analysis of Bundled Loyalty Discounts," 26 *International Journal of Industrial Organization* (2008) 1132-1152, (hereafter *Greenlee, Reitman, and Sibley 2008*) at 1132.

[60] Declaration of Professor Einer Elhauge on Behalf of Eisai Inc. *Eisai Inc. v. Sanofi-Adventis LLC*, No. 3:08 Civ. 4168 (D.N.J. Nov. 17, 2008) (hereafter *Elhauge Declaration*), ¶3.

Likewise, in a 2009 *Harvard Law Review* article, Professor Elhauge defines bundled loyalty discounts as "discounts on the linking product that require buyers to buy all or a high share of the linked product from the defendant."[61] Again, the set of facts in this case – in which Verizon conditions discounts not on the proportion of a buyer's *total needs*, but rather on the proportion of purchases *from Verizon itself* – is fundamentally different from the fact set discussed by Elhauge.

45. Another published article the RA Economists cite, by Hans Zenger, hardly supports their case. Indeed, Zenger describes loyalty discounts as "an efficient and healthy form of competition,"[62] and asserts, as a consequence, that "plaintiffs and competition authorities that allege anticompetitive foreclosure as a result of loyalty rebates should generally carry the burden of proving the existence of a restriction of competition."[63] The Zenger article relegates the possibility of anticompetitive effects to cases in which "dominance is very pronounced and where scale economies are significant," such that the loyalty discounts have the effect of "foreclos[ing] such a substantial part of the market that the output of smaller competitors is suppressed below the minimum efficient scale of production."[64] Given the ongoing entry, expansion, and competitive success of non-ILEC competitors documented in Section III, these facts clearly are not present here.

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[61] Einer Elhauge, "Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory," 123 *Harvard Law Review* (2009) 399-481, (hereafter *Elhauge 2009*) at 451.

[62] Hans Zenger, "Loyalty Rebates And The Competitive Process," 8 *Journal of Competition Law & Economics* (2012) 717-768, (hereafter *Zenger*) at 720.

[63] *Zenger* at 720

[64] *Zenger* at 749. Zenger goes on to note that market-share based discounts may have beneficial effects, including intensifying price competition and efficiently allocating market risks. Again, anticompetitive effects are relegated to cases in which they have the effect of "lowering the effective price rivals face below cost to evict competitors from the market," thereby "restricting the sales of competing suppliers." See *Zenger* at 756.

C. The Market Power Required by Economic Theory Does Not Exist

46. The economic literature the RA Economists rely upon assumes the existence of a dominant firm with a high degree of market power which, as discussed in Section III, does not exist in the market for special access services. Thus, once again, the economic literature fails to support the RA Economists' assertions.

47. For instance, the expert declaration of Professor Elhauge cited by the RA Economists contemplates market-share based contracts offered by a dominant firm—indeed, the illustrative example given in the declaration assumes the existence of a monopolist.[65] Likewise, Professor Elhauge's analysis in his 2009 *Harvard Law Review* article is predicated on the existence of a product "over which the defendant has market power."[66] Similarly, the Greenlee and Reitman DOJ discussion paper the RA Economists cite analyzes models involving either duopolists or a single dominant firm with market power,[67] while Greenlee, Reitman and Sibley's subsequent published paper considers "a monopolist in one market that faces competition in a second market."[68] As noted above, the Zenger article cited by the RA Economists relegates the possibility of anticompetitive effects to instances where "dominance is very pronounced."[69]

48. Finally, it should be noted that the same sorts of contractual provisions about which regulation advocates have complained are not only similar to those offered in other markets for other products, but also similar to those offered in this market by providers that manifestly do not have market power (e.g., including CLECs). The use of such provisions by

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[65] *Elhauge Declaration* ¶3.
[66] *Elhauge 2009* at 450.
[67] *Greenlee and Reitman 2006* at 4-5.
[68] *Greenlee, Reitman, and Sibley 2008* at 1132.
[69] *Zenger* at 749.

firms without market power demonstrates beyond a doubt that they are efficiency-motivated, not anticompetitive.[70]

V. THE COMMISSION SHOULD NOT REGULATE BEFORE COMPLETING ITS DATA COLLECTION AND ANALYSIS

49. The Commission is on the threshold of obtaining data that has the potential to dramatically improve its understanding of the competitive dynamics of markets for high capacity services. With so much additional information about to become available, it makes no sense to regulate pre-emptively on the basis of a record that the Commission concedes is insufficient to draw conclusions the competitiveness of the market. Moreover, contrary to regulation advocates' claims, the risks of pre-emptive regulation of ILECs' voluntary discount plans far outweigh any short-run benefits from immediate regulation, even in the extremely unlikely event the Commission were to conclude after completing its analysis that some or all of these practices should be proscribed.

A. The Data and Analysis Now Underway Can Provide Important Insight into the Competitive Dynamics of High-Capacity Markets

50. The Commission's data collection effort, if successful, should provide the evidence necessary to arrive at a more complete and sophisticated understanding the competitive dynamics of these markets. Indeed, as the Commission has recognized, the data it is now collecting and the analysis it will undertake of that data is necessary to perform even the most

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[70] See e.g., Comments of AT&T (February 11, 2013) (hereafter *AT&T Comments*) at 40-41 (regarding term-based discounts and termination charges).

basic assessment of competitive issues, including market definition[71] and the extent and significance of potential competition.[72]

51. While, as others have noted, it is important to adopt and maintain a rigorous research design and methodology, and not engage in "data mining." or adopt an "ad hoc" approach,[73] it is equally important for the Commission to allow the data it collects to inform the nature of its analysis, rather than trying to fit the data into a pre-determined analytical model. Thus, the Commission was correct, in our view, when it determined that "The precise form of econometric modeling we conduct will be dependent, in large part, on the nature and the quality of the data produced in response to the Order."[74]

52. Whatever modeling approach the Commission undertakes, it is imperative that the analytical process be transparent and that third-party researchers be given access to both the data and the methodology. Such transparency will allow the Commission to benefit from the expertise of a wide range of economic, statistical and industry experts, ensuring that the results are based the best available information and analytical techniques. Transparency will also contribute to the credibility of the Commission's findings, and to marketplace acceptance of the policy choices that flow from them.

B. Premature Regulation would be Costly and Difficult to Reverse

53. Regulation advocates would have the Commission believe that the costs of waiting to proscribe ILECs' terms and conditions are high, while the risks of regulating prematurely are low. The opposite is the case. Premature regulation would impose immediate

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[71] *FNPRM* at ¶68 ("We expect that the output of [the proposed] panel regressions will assist us in delineating both relevant product and geographic markets.")

[72] *FNPRM* at ¶68 ("In conjunction with data on providers' business rules, [the panel regression model] will also help us predict where and how potential competition will occur, as noted above.")

[73] See *AT&T Comments* at 8-9, 23-24, 33-34; *Hendel and Israel Declaration* at 24-25.

[74] *FNPRM* at ¶68.

and largely irreversible costs, while the risks of waiting – even if, however unlikely it may be, the Commission later decides to regulate – are low.

54. First, the costs of unjustified proscriptions of efficient contract terms and conditions would go far beyond the immediate effects on customers, who would no longer be able to obtain the voluntary discounts upon which they now rely. Prices and other contract terms provide market participants essential signals of how resources can best be deployed to maximize overall economic efficiency. In dynamic markets such as the market for high capacity services, price signals are especially important, as they affect the decisions of both buyers and sellers about how to allocate fixed investments and where to incur long-run costs. For example, a discount based on a term commitment provides sellers a means of conveying to buyers the efficiency benefits of reduced transaction costs, while sharing with them the risk of technological and market change associated with making, or maintaining, fixed investments. Prohibiting such discounts could lead buyers to instead make sunk cost (i.e., irreversible) investments of their own (self-provision), when doing so is economically inefficient.

55. Second, little harm will be done in the few months before the Commission's review is complete, contrary to regulation advocates claims, the costs of waiting until the Commission's analysis is complete are low. As we have demonstrated above, regulation advocates' claims about "high prices and suppressed competition" are completely unfounded.[75] Instead, the evidence is clear that competitors are already expanding and the markets for high capacity services are already growing. Even in the unlikely event the Commission ultimately decides the ILECs' contractual terms somehow harm competition and should be proscribed, it could not plausibly find that the harm is either large or irreversible.

[75] See *BT et al Comments* at 2.

56. By contrast, any additional regulations put in place today would be difficult to reverse. Once ILECs were forced to implement the new contract terms and conditions regulation advocates propose, there would be no obvious way to "unscramble the eggs." If, as seems highly likely, the additional regulation turned out to represent regulatory error, its effects would be long lasting.

VI. CONCLUSIONS

57. The Commission should not adopt the fire, ready, aim regulatory approach advanced by regulation advocates. The available evidence indicates that competition is robust, that the market has become more competitive in recent years, that competition is continuing to expand, and that technological change and market expansion are creating opportunities for continued growth. After a decade of deliberations, the Commission stands on the threshold of acquiring the information necessary to better understand the competitive dynamics of the markets for high capacity services, and it should proceed with the economic analysis necessary to do so.

We declare, under penalty of perjury, that the foregoing is true and correct.

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Kevin W. Caves

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Jeffrey A. Eisenach

March 12, 2013

Exhibit A

KEVIN W. CAVES
DIRECTOR
NAVIGANT ECONOMICS
1200 19th Street NW, Suite 850, Washington, DC 20036
Phone: (202) 973-2460 (*also rings mobile*)
e-mail: kevin.caves@naviganteconomics.com

EDUCATION

Ph.D. Economics, University of California at Los Angeles, December 2005
Fields of Study: Industrial Organization, Applied Econometrics

M.A. Economics, University of California at Los Angeles, May 2002

B.A. *Magna cum laude*, Departmental Honors in Economics, Haverford College, May 1998

EMPLOYMENT HISTORY

Director, Navigant Economics, March 2011 to present

Associate Director, Navigant Economics, February 2010 to March 2011

Vice President, Empiris LLC, September 2008 to February 2010

Senior Economist, Criterion Economics LLC, October 2006 to September 2008

Senior Consultant, Deloitte & Touche LLP, September 2005 to October 2006

Teaching Fellow, Department of Economics, UCLA, January 2002 to June 2004

Assistant Economist, Federal Reserve Bank of New York, August 1998 to June 2000

PUBLICATIONS AND RESEARCH PAPERS

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HONORS AND AWARDS

Howard Fellowship for Excellency in Teaching, University of California at Los Angeles, Spring 2005.

Graduate Fellowship, University of California at Los Angeles, 2000 – 2004.

Departmental Honors in Economics, Haverford College, May 1998.

Phi Beta Kappa Society, elected May 1998.

January 2013

JEFFREY AUGUST EISENACH

Education

Ph.D. in Economics, University of Virginia, 1985
B.A. in Economics, Claremont McKenna College, 1979

Professional Experience

Managing Director and Principal, Navigant Economics LLC, January 2010-present
Chairman and Managing Partner, Empiris LLC, September 2008-January 2010
Chairman, Criterion Economics, LLC, June 2006-September 2008
Chairman, The CapAnalysis Group, LLC, July 2005-May 2006
Executive Vice Chairman, The CapAnalysis Group, LLC, February 2003-July 2005
President, The Progress & Freedom Foundation, June 1993-January 2003
Executive Director, GOPAC, July 1991-May 1993
President, Washington Policy Group, Inc., March 1988-June 1991
Director of Research, Pete du Pont for President, Inc., September 1986-February 1988
Executive Assistant to the Director, Office of Management and Budget, 1985-1986
Special Advisor for Economic Policy and Operations, Office of the Chairman, Federal Trade Commission, 1984-1985
Economist, Bureau of Economics, Federal Trade Commission, 1983-1984
Special Assistant to James C. Miller III, Office of Management and Budget/Presidential Task Force on Regulatory Relief, 1981
Research Associate, American Enterprise Institute, 1979-1981
Consultant, Economic Impact Analysts, Inc., 1980
Research Assistant, Potomac International Corporation, 1978

Teaching Experience

Adjunct Professor, George Mason University School of Law, 2000-present (Courses Taught: Regulated Industries; Perspectives on Government Regulation; The Law and Economics of the Digital Revolution)
Adjunct Lecturer, Harvard University, John F. Kennedy School of Government, 1995-1999 (Course Taught: The Role of Government in the 21st Century)
Adjunct Professor, George Mason University, 1989 (Course Taught: Principles of Economics)
Adjunct Professor, Virginia Polytechnic Institute and State University, 1985, 1988 (Courses Taught: Graduate Industrial Organization, Principles of Economics)
Instructor, University of Virginia, 1983-1984 (Courses Taught: Value Theory, Antitrust Policy)
Teaching Assistant, University of Virginia, 1982-1983 (Courses Taught: Graduate Microeconomics, Undergraduate Macroeconomics)

Awards, Activities and Concurrent Positions

Visiting Scholar, American Enterprise Institute, 2012-
Member, Board of Directors, Information Technology & Innovation Foundation, 2011-
Vice President (Education) and Member of Audit Committee, Economic Club of Washington, 2011-
Member, World Bank ICT Broadband Strategies Toolkit Advisory Group, 2010-2011
Member, Economic Club of Washington, 2009-
Member, Board of Directors, PowerGrid Communications, 2008-2009
Member, Board of Advisors, Washington Mutual Investors Fund, 2008-2012
Member, Board of Advisors, Pew Project on the Internet and American Life, 2002-
Member, Board of Directors, The Progress & Freedom Foundation, 1993-2009
Member, Attorney General's Identity Theft Task Force, Virginia, 2002
Member of the Board of Directors, Privacilla.com, 2002-2003

Member, Executive Board of Advisors, George Mason University Tech Center, 2001-2004
Contributing Editor, *American Spectator*, 2001-2002
Member, Bush-Cheney Transition Advisory Committee on the FCC, 2001
Member, Governor's Task Force on E-Communities, State of Virginia, 2000-2001
Member, 2000-2001 Networked Economy Summit Advisory Committee, 1999-2001
Member, Board of Directors, Internet Education Foundation, 1998-2003
Member, Internet Caucus Advisory Committee, 1998-2003
Member, American Assembly Leadership Advisory Committee, 1996 -2002
Member, Commission on America's National Interests, 1995-2000
Adjunct Scholar, Hudson Institute, 1988-1991
Visiting Fellow, Heritage Foundation, 1988-1991
President's Fellowship, University of Virginia, 1981-1984
Earhart Foundation Fellowship, University of Virginia, 1981-1983
Member, Reagan-Bush Transition Team on the Federal Trade Commission, 1981
Henry Salvatori Award, Claremont Men's College, 1979
Frank W. Taussig Award, Omicron Delta Epsilon, 1978

White Papers and Academic Publications

"Putting Consumers First: A Functionality-Based Approach to Online Privacy," (with H. Beales) Navigant Economics LLC, January 2013

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