



September 10, 2012

Ex Parte

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Connect America Fund*, WC Docket No. 10-90; *A National Broadband Plan for Our Future*, GN Docket No. 09-51; *High Cost Universal Service Support*, WC Docket NO. 05-337; *Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92; *Federal State Joint Board on Universal Service*, CC Docket No. 96-45.

Dear Ms. Dortch:

Level 3 Communications, LLC (“Level 3”) and Bandwidth.com, Inc. (“Bandwidth”) hereby reply to and rebut the arguments presented in AT&T’s ex parte letter of July 16, 2012.¹ AT&T’s ex parte demonstrates that its interpretation of 47 C.F.R. §§ 51.913(b) and 61.26(f) would nonsensically result in a “symmetry rule” that was always *asymmetric* with respect to local switching access charges for over-the-top VoIP-PSTN traffic: for toll traffic between an AT&T PSTN customer and the customer of an over-the-top VoIP partner of Level 3 or Bandwidth, AT&T would *always* be able to charge terminating local switching access when the call originated from Level 3’s or Bandwidth’s over-the-top VoIP partner’s customer, but AT&T would *never* have to pay terminating local switching access charges when the call originated from AT&T’s end user customer and terminated to the same customer of Level 3’s or Bandwidth’s over-the-top VoIP Partner.² AT&T’s asymmetrical interpretation cannot be

¹ See Ex Parte Notice from Jack Zinman, AT&T, to Marlene H. Dortch, FCC, WC Docket Nos. 10-90 et al. (filed July 16, 2012)(“AT&T July 16 Ex Parte”).

² Level 3 and Bandwidth recognize that in the *USF/ICC Transformation Order*, *Connect America Fund*; *A National Broadband Plan for Our Future*; *Establishing Just and Reasonable Rates for Local Exchange Carriers*; *High-Cost Universal Service Support*; *Developing a Unified Intercarrier Compensation Regime*; *Federal-State Joint Board on Universal Service*; *Lifeline and Link-Up*; *Universal Service Reform--Mobility Fund*; Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, 26 FCC Rcd. 17663, ¶¶761-63 (2011)(“*USF/ICC Transformation Order*”) established a transitional intercarrier compensation rule for VoIP/PSTN traffic pursuant to Section 251(b)(5) rather than imposing an access charge under Section 251(g). However, for convenience and because those interim rates are set at access rate levels, we will refer to those charges for the origination or termination of “toll” VoIP/PSTN traffic as “access charges.” Level 3 and Bandwidth serve both “over-the-top” and “facilities-based” VoIP providers.

squared with the VoIP-PSTN symmetry rule announced in paragraph 968 of the *USF/ICC Transformation Order*,³ reiterated in paragraphs 2-5 of the Bureau's *February 27, 2012 Clarification Order*,⁴ and codified at 47 C.F.R. §§ 51.913(b) and 61.26(f) (collectively "VoIP Symmetry Rule"). Level 3 and Bandwidth agree with the proposition clarified by the *February 27, 2012 Clarification Order*—that 47 C.F.R. §§ 51.913(b) and 61.26(f) cannot be read to permit duplicate billing of access charges by multiple entities for the same functionality or to permit entities to bill for functionalities that neither they nor their VoIP provider partners perform. Because Level 3 and Bandwidth provide the same core switching and transport functions as AT&T, they are entitled under the VoIP Symmetry Rule to the same level of compensation as AT&T for performing these functions. Given that this issue—and what constitutes the core functionality of local switching—is now being litigated in numerous states, the Commission should clarify once and for all how to interpret and apply 47 C.F.R. §§ 51.913(b) and 61.26(f) to implement access charge *symmetry*.

I. Network Functionalities for a PSTN-VoIP or VoIP-PSTN Call.

On the PSTN side of the VoIP-PSTN call, the Commission's Part 69 access charge rules divide the ILEC's PSTN network functionalities into three core segments: loop/common line, local switching, and transport (including tandem switching). Each of these functionalities is separate, and carries a separate set of associated ILEC charges:

- Loop/Common line – These charges (the End User Common Line Charge, and, for some price cap carriers, the Presubscribed Interexchange Carrier Charge and Carrier Common line charges) are charges for the originating or terminating transmission of a call over the loop (common line), and use of the line port associated with a customer's line.⁵ In

³ See *USF/ICC Transformation Order*, ¶968.

⁴ See *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Inter-carrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform--Mobility Fund*; Order, DA 12-298, 27 FCC Rcd. 2142, ¶¶ 2-5 (2012) ("*February 27, 2012 Clarification Order*").

⁵ See 47 C.F.R. §§ 69.105, 69.152, 69.153, 69.154; *MTS and WATS Market Structure*, Third Report and Order, Phase 1, 93 FCC 2d 241, 292, ¶176 (1983) ("*1983 Access Charge Order*") ("This element [the End User Common Line Charge], combined with the Carrier Common Line charges, will recover most of the costs of subscriber plant, including CPE, inside wire, outside wire (*i.e.*, the drop line and interface) and loop costs allocated to the interstate jurisdiction."), *recon.*, 97 FCC 2d 682 (1983), *second recon.*, 97 FCC 2d 834 (1984); *Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, End User Common Line Charges*, First Report and Order, FCC 97-158, 12 FCC Rcd. 15982, ¶ 125 (1997) (assigning line port recovery to Common Line rate elements) ("*1997 Access Reform Order*"); *Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers*, Sixth Report and Order, *Low-Volume Long-Distance Users*, Report and Order, *Federal-State Joint Board on Universal Service*, Eleventh Report and Order, FCC 00-193, 15 FCC Rcd. 12962, 12988-89 (2000) ("*CALLS*

modern, digital networks, common line charges include charges for functionalities that may be dedicated to a single end user, such as a drop, or shared between multiple end users, such as feeder plant, and even for equipment (for example, a remote terminal), that connects a feeder trunk containing multiple users' traffic to a drop that contains only a single user's traffic while determining which traffic to route onto which drop.⁶

- Local switching – Local switching charges include not just switching at the “telephone company office from which the end user receives exchange service,”⁷ but also use of trunk ports (particularly shared trunk ports) and call set-up.⁸
- Transport, including tandem switching – This includes transport between an end office providing local switching and the interexchange carrier's point of presence.⁹

The Commission has previously delineated the core “local switching” functions, to distinguish them from the “loop functions” noted above:

Order”) (eliminating residual PICC charges and reducing or eliminating CCL charges for price cap LECs); *Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, Second Report and Order and Further Notice of Proposed Rulemaking, *Federal-State Joint Board on Universal Service*, Fifteenth Report and Order, *Access Charge Reform for Incumbent Local Exchange Carriers Subject to Rate-of-Return Regulation, Prescribing the Authorized Rate of Return From Interstate Services of Local Exchange Carriers*, Report and Order, FCC 01-304, 16 FCC Rcd 19613, ¶¶ 90-91 (2001) (“*MAG Order*”) (moving recovery of line ports to common line for rate-of-return carriers). To the extent they still exist, interstate common line charges also may recover some miscellaneous non-traffic sensitive costs (marketing and Transport Interconnection Charge recovery). See *CALLS Order*, ¶72.

⁶ See e.g. *Classification of Remote Central Office Equipment for Accounting Purposes*, RAO Letter 21, 7 FCC Rcd. 6075 (Com.Car.Bur.1992) (“*Revised RAO 21*”) (differentiating a remote terminal from a remote switch), *petitions for reconsideration and applications for review denied*, FCC 97-241, 12 FCC Rcd. 10061 (1997).

⁷ 47 C.F.R. § 69.2(pp)(defining “end office”).

⁸ See 47 C.F.R. § 69.106 (defining the charges for local switching, including common trunk ports and permitting call set-up charges of all “originating calls handed off to the interexchange carrier's [“IXC's”] point of presence” (“POP”) and “all terminating calls received from an [IXC's POP] whether or not that call is completed at the called location”) See also *1997 Access Charge Reform Order*, ¶ 123 (“A local switch consists of (1) an analog or digital switching system; and (2) line and trunk cards, which connect subscriber lines and interoffice trunks, respectively, to the switch”), ¶ 138 (discussing call set up charges).

⁹ See 47 C.F.R. §§ 69.111 (tandem-switched transport and tandem), 69.112 (direct-trunked transport). See also *1997 Access Reform Order*, ¶ 150 (“Transport service is the component of interstate switched access consisting of transmission between the IXC's point of presence (POP) and LEC end offices.”).

“The basic switching functions are: 1) Attending - monitors for off-hook signals; 2) Control - determines call destination and assigns call to available line or trunk, 3) Busy testing - determines whether the called line/trunk is busy; 4) Information receiving - receives control and busy test results; 5) Information transmitting - transmits control and busy test results to tell the alerting and interconnection functions whether to complete the call; 6) Interconnection - connects subscriber line to subscriber line or subscriber line to trunk; 7) Alerting - rings the called subscriber’s line or other signalling [sic] means if the call is destined for another exchange; 8) Supervising-monitors for call termination so the line can be released.”¹⁰

The VoIP side of a PSTN-VoIP or VoIP-PSTN call necessarily entails functions similar to each of the loop, local switching and transport functions in the PSTN context, although because of the nature of VoIP technology, the functions may be disaggregated among different equipment that may reside at many different locations. As in the PSTN network, at a minimum there must be:

- A means of transmitting the call to and from the VoIP end user (similar to the PSTN loop). For a facilities-based VoIP provider such as a cable company this will frequently occur over the VoIP provider’s (or its affiliate’s) own transmission facilities, such as over distribution facilities between a cable headend and the cable customer’s premises. For an over-the-top VoIP provider, this transmission will occur over shared facilities - the Internet. However, even when transmission occurs over the Internet, an over-the-top VoIP provider will frequently have measures to ensure reliable call quality across the Internet, including examining packet loss and connection latency.
- A means of performing the eight functions listed in Revised RAO 21—as the basic functions of PSTN local switches. These functions are frequently accomplished by means of a “softswitch,” which can be several diverse and dispersed devices acting in combination, rather than a single piece of equipment. For example, for a VoIP provider the equivalent of “intranodal” switching in a circuit switch (*i.e.*, “connects subscriber line to subscriber line”) may be providing the databases to permit a connection to be established between two customers of the same VoIP provider dialing their ten digit telephone numbers, rather than physically routing the media stream through the VoIP provider’s servers and routers; nonetheless, the critical intelligence and equipment is being provided by the LEC/VoIP provider.

¹⁰ Revised RAO 21, at n. 1. In Revised RAO 21, the Commission provided guidance as to how to distinguish a “remote terminal” from a “switch” when classifying equipment for accounting purposes. The distinction between “switching” equipment and “loop” facilities is not a minor issue; it is important for determining high cost loop support, which supports loop costs but not switching costs. *See Mr. John T. Nakahata*, DA 09-553, 24 FCC Rcd. 2945, 2946 and n. 11 (2009)(noting that reclassifying a remote terminal as a switch based on standalone emergency switching functionality “could severely affect the calculation of loop costs for rural rate of return carriers, lowering their calculated loop costs and, concomitantly, their universal service fund support.”).

- Transmission (similar to PSTN transport) between the equipment conducting the “softswitch” functions and the IXC’s point of presence, including within the LEC/VoIP provider’s network, and vice versa, and between the gateway and the IXC’s POP (some of which may be performed by other providers that may also bill for jointly-provided access services).

Included as Attachment A is a representation of the various Revised RAO 21 switching functionalities performed by a CLEC and/or its VoIP provider partner with respect to the origination and termination of toll VoIP traffic.

II. The Commission’s VoIP/PSTN Symmetry Rule

As part of its transitional rules governing the assessment of access charges for toll VoIP/PSTN traffic, the Commission adopted its “VoIP Symmetry Rule.” The “VoIP Symmetry Rule” was adopted as part of a section of the *USF/ICC Transformation Order* in which the Commission established a going-forward rule that all “toll” traffic exchanged in TDM format that either originated or terminated in IP format would be subject to intercarrier compensation at the level of access charges.¹¹ The *USF/ICC Transformation Order* made clear that henceforth, traffic that originated from an IP endpoint would be subject to access charges when it was terminated by a LEC in TDM.¹² Likewise, the Order made clear that a LEC serving its customer in IP format could assess access charges for traffic that originated in TDM, notwithstanding the fact that it served its customer in IP. The Commission expressly included within the interim intercarrier compensation regime for “toll” VoIP traffic exchanged with the PSTN both interconnected VoIP traffic and non-interconnected VoIP traffic.¹³ The Commission specifically “decline[d] to adopt an asymmetric approach that would apply VoIP-specific rates for only IP-originated or only IP-terminated traffic, as some commenters propose.”¹⁴ Indeed, the Commission stated that it “has recognized concerns about asymmetric payment associated with

¹¹ See 47 C.F.R. § 51.913(a); *USF/ICC Transformation Order*, ¶ 944. Initially, all VoIP-PSTN traffic was to be subject to intercarrier compensation at the level of interstate access charges. *Id.* ¶ 933. Subsequently, however, the Commission permitted charges at the level of intrastate access charges to be assessed for intrastate “toll” VoIP/PSTN traffic for two years. See *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform--Mobility Fund, Second Order on Reconsideration*, FCC 12-47, 27 FCC Rcd. 4648, ¶45 (2012).

¹² The Commission did not decide the question of whether access charges could be assessed for traffic exchanged prior to the effective date of the *USF/ICC Transformation Order*. See *USF/ICC Transformation Order*, ¶ 945.

¹³ See *USF/ICC Transformation Order*, ¶ 941.

¹⁴ *Id.* ¶ 942.

VoIP traffic today, including marketplace distortions that give one category of providers an artificial regulatory advantage in costs and revenues relative to other market participants.”¹⁵

Expressly addressing concerns raised by Level 3 and others that “absent Commission clarification, certain LECs that provide wholesale inputs to retail VoIP services might not be able to collect all the same intercarrier compensation charges as LECS relying entirely on TDM networks,”¹⁶ the Commission adopted the VoIP Symmetry Rule.¹⁷ Under the VoIP Symmetry Rule a LEC may “charge the relevant intercarrier compensation for functions performed by it and/or by its retail VoIP partner, regardless of whether the functions performed or the technology used correspond precisely to those used under traditional TDM architecture.”¹⁸ The rule expressly permits a LEC to:

“assess and collect the full Access Reciprocal Compensation charges . . . regardless of whether the local exchange carrier itself delivers such traffic to the called party’s premises or delivers the call to the called party’s premises via contractual or other arrangements with an affiliated or unaffiliated provider of interconnected VoIP service, as defined in 47 U.S.C. 153(25), or a non-interconnected VoIP service, as defined in 47 U.S.C. 153(36), that does not itself seek to collect Access Reciprocal Compensation charges prescribed by this subpart for that traffic.”¹⁹

The Commission recognized that “[b]ecause the Commission has not broadly addressed the classification of VoIP services, however, retail VoIP providers that take the position that they are offering unregulated services therefore are not carriers that can tariff intercarrier compensation charges.”²⁰ Thus,

“just as retail VoIP providers rely on wholesale carrier partners for, among other things, interconnection, access to numbers, and compliance with 911 obligations--a type of arrangement the Commission has endorsed in the past--so too do they rely on wholesale carrier partners to charge tariffed intercarrier compensation charges.”²¹

The Commission also made clear that its rules “do not permit a LEC to charge for functions performed neither by itself [n]or its retail service provider partner.”²² The Bureau reiterated this point in its *February 27 Clarification Order*, modifying 47 C.F.R. § 61.26 to make explicit that even when a CLEC is “listed in the database of the Number Portability Administration Center as

¹⁵ *Id.*

¹⁶ *Id.* ¶ 968.

¹⁷ *See February 27 Clarification Order*, ¶ 3 n.5.

¹⁸ *USF/ICC Transformation Order*, ¶ 970. *See also* 47 C.F.R. § 51.913(b).

¹⁹ 47 C.F.R. § 51.913(b).

²⁰ *USF/ICC Transformation Order*, ¶ 970.

²¹ *Id.*

²² *Id.*; *see also* 47 C.F.R. § 51.913(b).

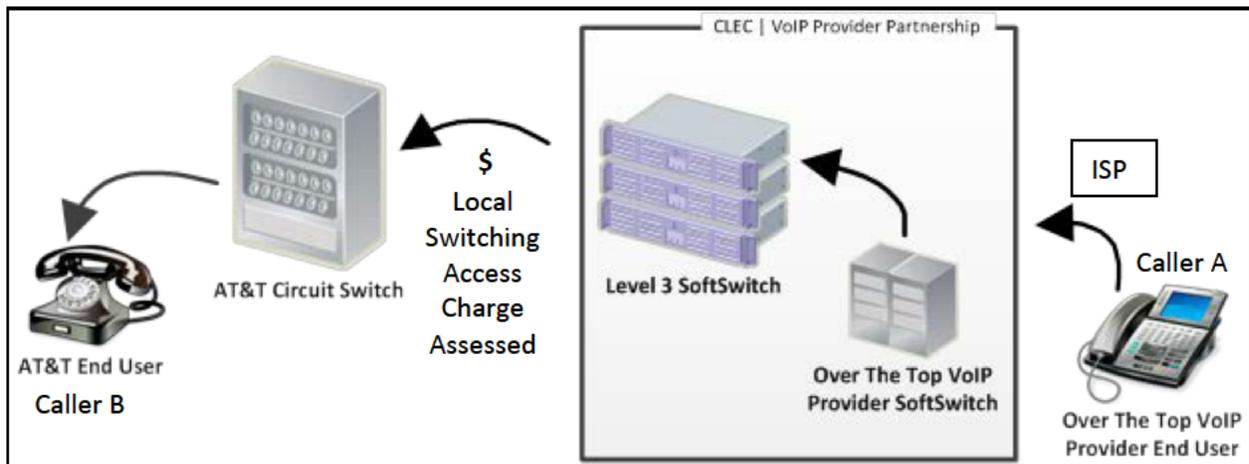
providing the calling party or dialed number,” it still may not levy “toll” PSTN/VoIP intercarrier compensation charges for functions that it does not perform.²³

III. AT&T’s Argument that Local Switching Can Only be Assessed When a LEC or its VoIP Partner Provides the Last Router to the Customer’s Premises Turns the Symmetry Rule into an Asymmetry Rule for “Over-the-Top” Services.

AT&T’s argument that a CLEC can only assess an intercarrier compensation charge for local switching when it provides the last router to or from the called party’s premises is a crabbed reading that turns the VoIP symmetry rule on its head with respect to any and all over-the-top VoIP services and cannot be squared with the plain language of 47 C.F.R. § 51.903(d)(2) & (3).²⁴ Under AT&T’s view, a LEC partnered with an over-the-top interconnected or non-interconnected VoIP provider would *never* be able to charge for local switching functionality, even though AT&T could do so on calls between the same two parties when the traffic terminates over AT&T’s network.

A simple example highlights the categorical *asymmetry* that AT&T seeks to embed in the Commission’s VoIP *Symmetry* Rule. Take a call from Caller A, a VoIP customer, to Caller B, an AT&T LEC customer in a different exchange area.

Figure 1



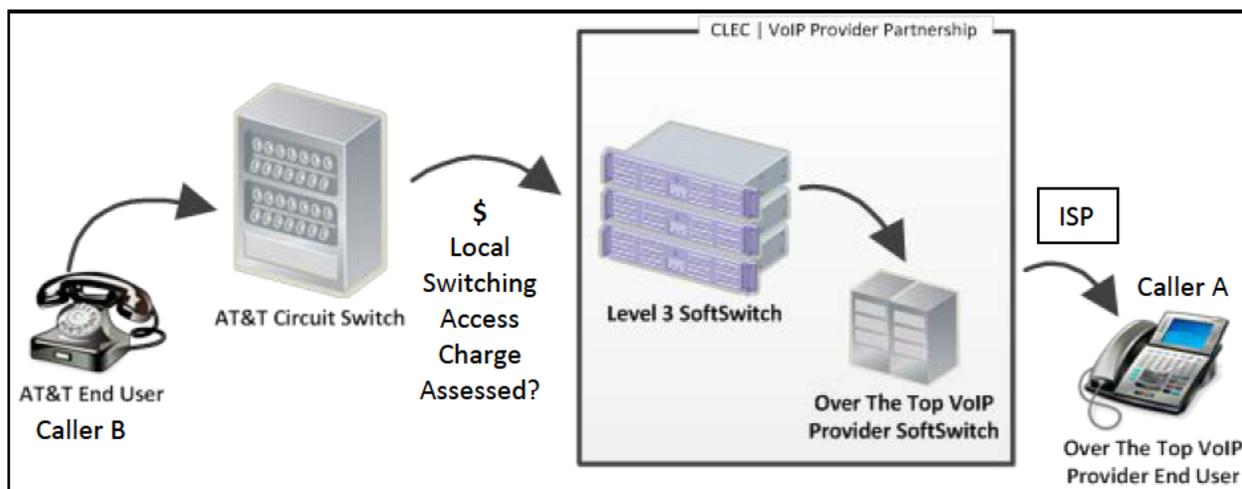
Assuming AT&T has filed correct tariffs, 47 C.F.R. §51. 913(a) permits AT&T to charge local switching when it terminates a call from Caller A to Caller B, regardless of whether Caller A is calling using a cable network (*i.e.*, facilities-based interconnected VoIP provider), an over-the-top VoIP service, or an over-the-top non-interconnected VoIP service. AT&T’s Caller B is served by a switch (or, in the case of a remote switch, switches) that performs the eight basic switching functions listed in Revised RAO 21.

²³ February 27 Clarification Order, Appendix.

²⁴ See AT&T July 16 Ex Parte at 1.

Now take the same call in the reverse direction, from Caller B to Caller A. Caller A is served by a VoIP provider that, in combination with its LEC partner, performs the same eight basic switching functions listed in Revised RAO 21.

Figure 2



As shown in the chart on page 11, the ISP performs none of the eight basic switching functions listed in Revised RAO 21. Yet under AT&T's interpretation of the VoIP Symmetry Rule, the LEC providing those eight basic switching functions in combination with its VoIP provider partner would not be permitted to charge local switching because it did not provide transmission over the last mile. Because over-the-top interconnected and non-interconnected VoIP providers will, by definition, *never* be providing last-mile transmission, under AT&T's interpretation, their LEC partner will *never* be able to charge local switching.

Nothing in the *USF/ICC Transformation Order* or the Bureau's subsequent *February 27, Clarification Order* reflects an intention by the Commission to create a categorical asymmetry in the intercarrier compensation charges that can be assessed for over-the-top VoIP traffic. And nothing in the VoIP Symmetry Rule limits the rule to situations in which the VoIP provider provides last mile transmission. Indeed, to interpret the symmetry rule as having an implicit last-mile transmission requirement would negate the operation of the rule, particularly with respect to non-interconnected VoIP services, which are virtually all offered over-the-top, rather than through a provider's own last mile transmission facilities. If the Commission had, as AT&T insists, intended to exclude LECs serving non-interconnected VoIP providers from collecting local switching when the LEC or VoIP provider did not provide last-mile transmission facilities, it would not have expressly *included* non-interconnected VoIP providers within the scope of the VoIP Symmetry Rule (as it would never apply to them). Furthermore, in concluding, "we allow providers that have undertaken or choose to undertake such deployment [of IP networks] the same opportunity, during the transition, to collect intercarrier compensation under our prospective VoIP-PSTN intercarrier compensation regime as those providers that have not yet undertaken that network conversion," the Commission cited with approval Level 3's comments

which expressly discussed both facilities-based and over-the-top VoIP service.²⁵ In the *February 27 Clarification Order*, the Commission did not change the VoIP Symmetry Rule to create a categorical exclusion for over-the-top VoIP services; instead, it simply rejected Y-Max's request for guidance, which the Commission characterized as asking whether "section 61.26(f) permits a competitive LEC to tariff and charge the full benchmark rate even if it includes functions that neither it nor its VoIP retail partner are actually providing."²⁶ Not surprisingly, the Bureau reiterated that a LEC cannot charge for a function that neither the LEC nor its VoIP partner provides.²⁷ Notably, however, the Bureau did not address what functions YMax actually does (or does not) perform, did not specify exactly what constitutes performing the "functional equivalent" of a traditional ILEC access service, and did not discuss Rule 51.903(d)(2) or (3). As discussed herein, it is critical that the Commission clarify these issues.

The definition of "End Office Access Service" adopted in Section 51.903(d) of the Commission's rules also does not mandate that a LEC or its VoIP provider be providing last mile transmission, including the final IP router, in order to assess the functional equivalent of local switching charges. AT&T's argument turns on the meaning of "routing of interexchange telecommunications traffic to or from the called party's premises" taken from 47 C.F.R. § 51.903(d)(2)—one of three alternative definitions of End Office Access Service provided in Section 51.903(d). Even if AT&T's interpretation of that phrase in § 51.903(d)(2) were correct (which it is not, as explained further below), AT&T ignores entirely 47 C.F.R. § 51.903(d)(3) which provides a separate and independent definition of "End Office Access Service" as "Any functional equivalent of the incumbent local exchange carrier access service provided by a non-incumbent local exchange carrier." Notably, §51.903(d)(3) then defines the End Office Access Service rate elements to include, separately, "the local switching rate elements specified in § 69.106 of [Part 69], the carrier common line rate elements specified in § 69.154 of [Part 69], and the intrastate rate elements for functionally equivalent access services."²⁸

As discussed above, 47 C.F.R. § 69.106 governs ILEC local switching charges. The functionalities covered by §69.106 do not include loop transmission, remote terminal functionalities (such as segregating traffic destined for a particular customer from all other traffic on the feeder plant) or the line port. By its terms, § 69.106 covers the switching function itself, call set-up and, when used, a common or dedicated trunk port, but does not include any part of

²⁵ *USF/ICC Transformation Order*, ¶ 970 and n. 2017. Level 3's comments specifically stated that its proposal "would apply regardless of how or by whom last-mile transmission occurs." Comments of Level 3 Communications, LLC on the Universal Service-Intercarrier Compensation August 3, 2011 Public Notice, at 23, WC Docket Nos. 10-90 et al.(filed Aug. 24, 2011)("Level 3 August 3 PN Comments").

²⁶ *February 27 Clarification Order* at ¶ 4.

²⁷ *See id.*

²⁸ 47 C.F.R. § 51.903(d)(3) also makes clear that a non-incumbent LEC may also assess the information surcharge and residual rate elements that are functionally equivalent to state Transport Interconnection Charges, Residual Interconnection Charges, and Presubscribed Interexchange Carrier Charges.

loop transmission. In contrast, Section 69.154—enumerated separately in §51.903(d)(3)—governs carrier access charges (as distinguished from end user charges) for *transmission over the line port and common line*. In its interpretation, AT&T would import carrier common line loop transmission functionality into § 69.106 local switching, which confuses the independent functionalities governed by § 69.106 and § 69.154.

AT&T's interpretation of 47 C.F.R. § 51.903(d)(2)'s phrase "the routing of interexchange telecommunications traffic to or from the called party's premises" as focusing on the ISP's separation of packets bound for the VoIP customer from all other packets and the routing of those packets to the correct VoIP customer router or terminal adapter is also wrong because, as applied to the PSTN, this logic would presumably allow local switch access charges to be assessed for remote terminal functionality, even though Revised RAO 21 specifically defines the remote terminal as loop equipment. Like the ISP on the VoIP end of a PSTN-VoIP call, a remote terminal separates the voice call bound for the called party from all other voice calls, and places that voice call onto the right drop for delivery to the end user, but that does not make the remote terminal a "switch."²⁹ Similarly here, the ISP may provide final routing but it also is in no greater sense a "switch." Indeed, providers of broadband Internet access do not and cannot provide any Revised RAO 21 switch functionalities. The only function performed by Internet access providers is—like a remote terminal—to route IP packets to a specific host address based on the packet header instructions. An Internet access provider is technically incapable of creating a voice path between a particular end user and a particular access customer without the functionalities provided by the CLEC (and/or VoIP provider) as described below. Thus, AT&T's position that the ISP is performing local switching because it performs final routing cannot be reconciled with Commission precedent distinguishing switches from remote terminals, and must therefore be rejected.

As summarized in the chart below, for the IP end of a VoIP-PSTN call, it is the LEC and its VoIP partner that perform the eight basic local switching functions set forth in Revised RAO 21, and not the ISP.

²⁹ In Revised RAO 21, the Bureau (later upheld by the Commission) held that "[t]he distinguishing attribute between a remote switch and a remote terminal of a concentrator is that a remote switch can provide the switched path for calls between its directly connected local subscribers and a remote terminal cannot." Revised RAO 21 at 1. Like a remote terminal of a concentrator, with respect to the VoIP call, a last-mile ISP relies upon the intelligence provided by the upstream switching fabric to direct the connection of the ends of a call, even for calls between two customers of the same VoIP provider and the same last-mile ISP. *See id.*

Revised RAO 21 Basic Switching Function	Performed by LEC/"Over-the-top" VoIP Partner	Performed by Over-the-top VoIP User's ISP
1) <u>Attending</u> - monitors for off-hook signals	Yes.	No.
2) <u>Control</u> - determines call destination and assigns call to available line or trunk	Yes. In this case, assigning call to the available line or trunk means, in the case of line, addressing the call so that it is transmitted to the correct end user's Terminal Adapter or router sending the call out to the PSTN and, in the case of trunk, sending the call out to the PSTN for TDM carriage and termination.	No.
3) <u>Busy testing</u> - determines whether the called line/trunk is busy	Yes.	No
4) <u>Information receiving</u> - receives control and busy test results	Yes.	No
5) <u>Information transmitting</u> - transmits control and busy test results to tell the alerting and interconnection functions whether to complete the call	Yes.	No
6) <u>Interconnection</u> - connects subscriber line to subscriber line or subscriber line to trunk	Yes. For VoIP, ten digit dialed connections between end users of the same VoIP provider may be established through interaction with the VoIP provider/LEC partner but without use of the PSTN.	No
7) <u>Alerting</u> - rings the called subscriber's line or other signaling means if the call is destined for another exchange	Yes.	No
8) <u>Supervising</u> -monitors for call termination so the line can be released	Yes.	No

Rule 51.903(d)(2) further buttresses the conclusion that a LEC is entitled to bill end office switching based on the analogous functions that it or its VoIP partner perform, rather than on the provision of transmission, because it specifies that it covers “the routing of interexchange telecommunications traffic to or from the called party’s premises . . . *regardless of the specific functions provided or facilities used.*” In short, whether end users are connected to the PSTN by dedicated facilities or shared facilities (including the public Internet) is irrelevant to determining if the LEC serving them is providing the functional equivalent of end office access service. AT&T’s argument conflicts with this rule because it would turn the permissibility of the assessment of local switching charges on the specific “facilities used”—namely, a wired connection owned by the LEC or VoIP provider between the LEC/VoIP Provider switching matrix and the VoIP end user’s premises. Such a reading is entirely inconsistent with the rule itself.

IV. Level 3’s and Bandwidth’s Functional Test for the Core Functionality of Local Switching Best Identifies When a CLEC May Assess Local Switching Charges.

In their ex parte letter of June 11, 2012, Level 3 and Bandwidth proposed that the “equivalent functionality of [ILEC] end office switching is the intelligence and infrastructure that manages the interaction with the end user’s telecommunications or VoIP service and that initiates call set-up and takedown.”³⁰ As illustrated above, this test is congruent with providing the eight basic local switching functions set forth in Revised RAO 21. This test is also consistent with the functionalities actually included within 47 C.F.R. § 69.106, including call-set up, use of common trunk ports, and use of the switching matrix itself.

Applying this as the test for assessing the functional equivalent of local switching charges will not lead to double billing or to payment for functions not performed. As discussed above, the transmission between the VoIP provider and the over-the-top VoIP end user’s ISP is functionally equivalent to the carrier common line charges under § 69.154, not the local switching charges under § 69.106. When a LEC/VoIP Provider provides the intelligence and equipment that manages the end user’s interaction with his or her telecommunications or VoIP service and initiates call set-up and takedown, no other entity - including the ISP - performs those functions.

AT&T’s argument that providing the intelligence and infrastructure that manages the end user’s interaction with his or her telecommunications service or VoIP service and that initiates call set-up and takedown are merely “call management” and not “routing of voice packets” is a mere semantic word game.³¹ When Level 3 and Bandwidth interact with other PSTN carriers with respect to a VoIP/PSTN call, Level 3 and Bandwidth do more than provide mere signaling functions. For calls bound to the over-the-top VoIP provider’s customer, they advertise themselves, through the LERG, as the final destination for the call, they provide the switch

³⁰ Ex Parte Notice from Tamar E. Finn, Counsel, Bandwidth.com, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, at 3, WC Docket Nos. 10-90 et al (filed June 11, 2012).

³¹ AT&T July 16 Ex Parte at 1, Attachment at 4.

associated with the LRN accompanying the VoIP end user's number in the NPAC database, and they make the fundamental decision as to which end user IP address (and thus to which end user) the VoIP packets must be routed. In short, as described above, they—together with their VoIP provider partner—provide the eight basic local switching functions identified in Revised RAO 21.

Notably, use of Level 3's and Bandwidth's test for core switching functionality – or the list from Revised RAO 21 as adapted for an IP network—as a means of interpreting when a LEC is providing an equivalent functionality provides a ready means to differentiate between local switching and tandem switching or remote terminal functionality. A tandem does not manage the end user's interaction with his or her telecommunications or VoIP service and does not initiate call set-up or takedown. The same is true with a remote terminal.

V. Conclusion

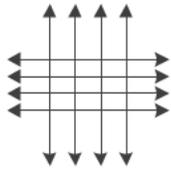
Accordingly, Level 3 and Bandwidth again respectfully request that the Commission make clear that when a LEC and/or its VoIP provider partner provides the intelligence and infrastructure that manages the interaction with the end user's telecommunications or VoIP service and that initiates call set-up and takedown, that LEC may charge, and is due payment for the functional equivalent of local switching charges for VoIP/PSTN traffic that terminates to the VoIP provider's end user customer.

Sincerely,

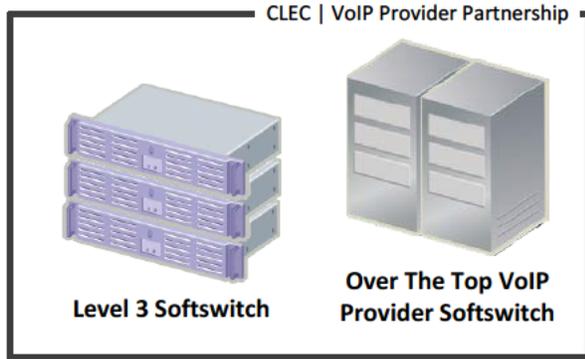
<p>Tamar Finn BINGHAM MCCUTCHEN LLP 2020 K Street NW Washington, D.C. 20006 <i>Counsel for Bandwidth.com, Inc.</i></p>	<p>John T. Nakahata WILTSHIRE & GRANNIS, LLP 1200 18th Street, NW, Suite 1200 Washington, D.C. 20036 (202) 730-1320 jnakahata@wiltshiregrannis.com <i>Counsel for Level 3 Communications, LLC</i></p>
<p>Greg Rogers Deputy General Counsel BANDWIDTH.COM, INC. 4001 Weston Parkway Cary, NC 27513 (919) 439-5399 grogers@bandwidth.com</p>	<p>Erin Boone Senior Corporate Counsel, Federal Regulatory Affairs LEVEL 3 COMMUNICATIONS, LLC 1120 Vermont Avenue, N.W. Suite T1000 Washington, DC 20005 (202) 595-9905</p>

cc: Deena Shetler
Victoria Goldberg
John Hunter
Randy Clarke
Travis Litman
Michelle Domingue
Elizabeth Alexander
Jack Zinman

ATTACHMENT A



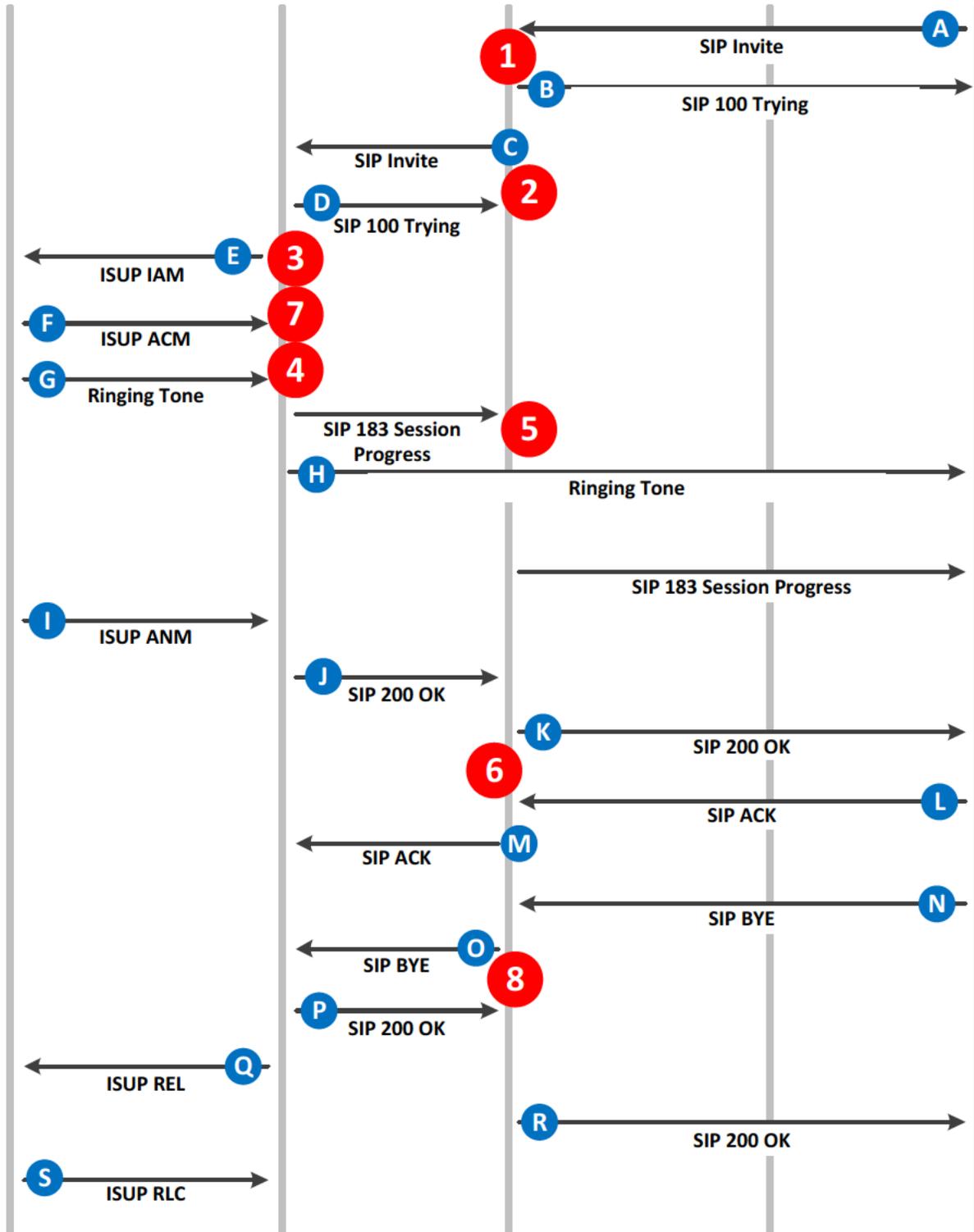
SS7 Quad Links to PSTN



Broadband Internet Provider



Over The Top VoIP Provider End User



Sasha (Over the Top VoIP Provider’s Customer) dials her friend Bob (PSTN Provider’s Customer) via service provided by a CLEC | VoIP Partnership

Legend	Description
A	Sasha’s SIP User Agent Client converts dialed digits into a SIP URI
B	VoIP Provider SoftSwitch indicates to SIP Client it is trying to establish a call
C	VoIP Provider SoftSwitch communicates with CLEC SoftSwitch to determine gateway to send the call and the call is forwarded to the CLEC SoftSwitch
D	CLEC SoftSwitch indicates to VoIP Provider SoftSwitch that it trying to establish the call
E	CLEC Softswitch sends ISUP Initial Address Message to the PSTN; The calling and called numbers are included in the message
F	Since all digits were included in the ISUP IAM, the PSTN Switch replies with ISUP Address Complete Message
G	A path towards Sasha is connected to send the Ringing Tone
H	CLEC SoftSwitch sends PSTN audio (ringing) to Sasha
I	Bob answers the call; PSTN sends and ISUP Answer Message to CLEC SoftSwitch
J	CLEC SoftSwitch responds with SIP OK to VoIP Provider SoftSwitch to indicate Bob has answered the call
K	VoIP Provider SoftSwitch sends SIP OK to Sasha’s SIP Client
L	SIP Client acknowledges the receipt of SIP OK Message
M	VoIP Provider SoftSwitch acknowledges the receipt of SIP OK Message
N	Sasha hangs up with Bob and her SIP Client sends a BYE Message to the VoIP Provider SoftSwitch
O	VoIP Provider SoftSwitch sends a BYE Message to CLEC SoftSwitch
P	CLEC Softswitch replies back acknowledging the receipt of call release request
Q	CLEC SoftSwitch signals call release to PSTN via and ISUP Release Message
R	In the meantime the VoIP Provider SoftSwitch acknowledges the BYE Message to SIP Client
S	The PSTN releases the call and replies with ISUP Release Complete Message

1	CLEC / VoIP Provider Partnership satisfies the “Attending” Function by listening for a SIP Invite message which indicates the End User wants to make a call
2	CLEC / VoIP Provider Partnership satisfies the “Control” Function by assigning the call to a Port in the SIP 100 Trying Message
3	CLEC / VoIP Provider Partnership satisfies the “Busy Testing” Function by communicating with the PSTN via SS7 to determine if the called line is busy
4	CLEC / VoIP Provider Partnership satisfies the “Information Receiving” Function by communicating with the PSTN via SS7 to determine the status of the called line
5	CLEC / VoIP Provider Partnership satisfies the “Information Transmitting” Function by transmitting control information via the SIP 200 Message that the called party has answered or is busy
6	CLEC / VoIP Provider Partnership satisfies the “Interconnection” Function by establishing a path for the call to complete between the calling and called parties
7	CLEC / VoIP Provider Partnership satisfies the “Alerting” Function by sending a SS7 message to the called party’s network that causes the phone to ring
8	CLEC / VoIP Provider Partnership satisfies the “Supervising” Function by listening for a SIP Bye Message which indicates the End User has terminated the call

ⓐ	Broadband Service Provider does not perform any of the FCC defined End Office Functions and merely functions as Customer Provided Access for the call in the same manner as Customer Provided Access operates in other providers networks
----------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------