

**Exhibit No. \_\_\_ (MDG-1T)**  
**Dockets UT-053039**  
**WITNESS: MACK D. GREENE**

**BEFORE THE WASHINGTON UTILITIES  
AND TRANSPORTATION COMMISSION**

**PAC-WEST TELECOMM, INC.,**

**Petitioner,**

**v.**

**QWEST CORPORATION,**

**Respondent.**

**DOCKET UT-053036**

**LEVEL 3 COMMUNICATIONS, LLC,**

**Petitioner,**

**v.**

**QWEST CORPORATION,**

**Respondent.**

**DOCKET UT-053039**

**LEVEL 3 COMMUNICATIONS, LLC**

**DIRECT TESTIMONY OF  
MACK D. GREENE**

**REDACTED**

**September 7, 2012**

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1 **I. INTRODUCTION AND QUALIFICATIONS.**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Mack D. Greene. I am a Director with Level 3 Communications,  
4 LLC. My business address is 1025 Eldorado Blvd, Colorado, 80021.

5 **Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

6 A. I am employed by Level 3 Communications, LLC (“Level 3”) and have been so  
7 employed since 2003. Presently, I am Level 3’s Director of Interconnection  
8 Services.

9 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
10 **RELEVANT TELECOMMUNICATIONS WORK EXPERIENCE.**

11 A. I studied Mechanical Engineering at Howard University in Washington, D.C.  
12 As noted above, I have been with Level 3 since October, 2003. Before joining  
13 Level 3, I held executive level positions with several telecommunications  
14 companies in Product Management, Sales, Engineering and Operations,  
15 including seven years at Qwest Communications Corporation, where I served as  
16 Vice President – Product Management, and Vice President – Product Strategy  
17 and Implementation.

18 In my current position with Level 3, I am responsible for negotiation and  
19 implementation of Level 3’s inter-carrier agreements, including but not limited  
20 to, interconnection agreements (“ICAs”). Level 3 has ICAs with more than one  
21 hundred fifty incumbent local exchange companies (“ILECs”) (including  
22 Regional Bell Operating Companies and Rural ILECs), competitive local

1 exchange companies (“CLECs”), Commercial Mobile Radio Service (“CMRS”)  
2 providers, cable system operators, and other communications providers  
3 nationwide. My responsibilities have included managing over \$300 million of  
4 network expenses associated with connecting the Level 3 network to other  
5 carriers as well as directly to its customers. I am familiar with all aspects of  
6 carrier-to-carrier ICAs, including the business/economic terms in such  
7 agreements, the technical arrangements used to interconnect networks, and the  
8 regulatory framework within which such ICAs are negotiated and established.

9 **Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE STATE**  
10 **REGULATORY COMMISSIONS IN MATTERS INVOLVING ICAs AND**  
11 **INTERCARRIER PAYMENTS?**

12 A. Yes, I have presented prefiled written testimony and/or live testimony in many  
13 state regulatory proceedings involving such issues over the last ten years,  
14 including in Oregon, Colorado, Arizona, as well as here in Washington.

15 **II. PURPOSE AND SUMMARY OF TESTIMONY**

16 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

17 A. As I understand it, the purpose of this proceeding at this time is to consider how  
18 much, if anything, Qwest owes Level 3, or Level 3 owes Qwest, with respect to  
19 “virtual NXX” or “VNXX” traffic that Qwest has sent to Level 3 on behalf of  
20 Level 3’s dial-up Internet Service Provider (“ISP”) customers. To address that  
21 issue, I discuss the following topics:

- 1 • how dial-up VNXX ISP-bound traffic is routed between Qwest and Level 3 in  
2 Washington;
- 3 • the reasons that access charges do not apply to VNXX traffic;
- 4 • the fact that essentially all ISP-bound traffic begins and ends in different states  
5 (or countries), meaning that as a practical, technical matter, all ISP-bound traffic  
6 is interstate in nature;
- 7 • the time period relevant to payments made in this case; and
- 8 • an estimation of the potential refunds from Level 3 to Qwest based on the  
9 application of an appropriate interest rate.

10 **III. HOW QWEST AND LEVEL 3 INTERCONNECT AND HANDLE VNXX**  
11 **ISP-BOUND CALLS.**

12 **Q. PLEASE SUMMARIZE THIS PORTION OF YOUR TESTIMONY.**

13 A. In this section of my testimony I describe the differences between the legacy  
14 circuit-switched network and Internet Protocol (“IP”)-based networks such as  
15 that operated by Level 3.

16 **Q. PLEASE PROVIDE A SHORT SUMMARY OF THE HISTORY AND**  
17 **DIFFERENCES BETWEEN THE LEGACY CIRCUIT-BASED**  
18 **NETWORK AND AN IP BASED NETWORK.**

19 A. At a high level, a “circuit-switched” network enables communications by  
20 establishing a path, or “circuit,” between two or more points that is dedicated to  
21 the use of the calling and called parties for the duration of the communication.

1 The term “switching” in a circuit-switched network refers generally to the  
2 process of setting up that dedicated path, sending customer information along the  
3 path, and “tearing the path down” when the call is completed. In contrast, an IP-  
4 based network uses “packet switching.” With packet switching, no particular  
5 circuit or call path is ever dedicated to a specific call or communication. Instead,  
6 communications are broken down into smaller pieces of data, called “packets,”  
7 each of which contains within it – along with customer information, sometimes  
8 called the “payload” – information about where it came from and where it needs  
9 to go, which, along with other information, is contained in what is called the  
10 “packet header”. Each packet is read individually by devices called “routers.”  
11 The router reads the address information in an incoming packet and then sends it  
12 out towards its destination. The term “switching” in a packet-switched network  
13 refers to the activity of these routers. A key difference between a packet-  
14 switched network and a circuit-switched network is that in a circuit-switched  
15 network all the information coming in to a switch on a particular circuit at a  
16 particular time will be part of a specific ongoing communication between end  
17 points; on the other hand, in a packet-switched network, the different packets that  
18 come into a router are typically not related to each other; each is read  
19 individually to determine where it should go.

20 **Q. HOW HAS THE USE OF CIRCUIT-SWITCHING VERSUS PACKET-**  
21 **SWITCHING CHANGED OVER TIME?**

22 A. The traditional telephone network was always a circuit-switched network; in  
23 large measure the telephone networks owned and operated by ILECs such as

1 Qwest remain circuit-switched today, although that is changing. Packet-  
2 switching was originally invented in the 1960s, and forms the basis for the  
3 Internet today. By the late 1990s, it was clear that IP-based packet switching was  
4 becoming increasingly efficient, and newer communications networks (such as  
5 those operated by Level 3 and many cable operators) were designed to take  
6 advantage of those efficiencies from the beginning, while remaining “backward-  
7 compatible” with the public switched telephone network (“PSTN”). Thus, while  
8 Level 3’s “native” network is IP-based, Level 3’s network contains many devices  
9 (known as “softswitches”) that can interface seamlessly with traditional circuit-  
10 switched networks such as that operated by Qwest here in Washington, as I  
11 describe below.

12 More recently, even legacy carriers have recognized that the entire PSTN will,  
13 over time, shift to an all-IP network. The FCC is currently conducting a  
14 rulemaking proceeding that seeks input from the public about how that transition  
15 will occur.<sup>1</sup>

16 **Q. PLEASE DESCRIBE, AT A HIGH LEVEL, HOW A CALL FROM A**  
17 **QWEST END USER TO AN ISP SERVED BY LEVEL 3 FLOWS**  
18 **THROUGH THE NETWORK.**

19 A. At a high level, what happens is as follows.

20 (1) The customer’s modem goes “off hook” and dials the local telephone number  
21 assigned by Level 3 to the ISP’s network.

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<sup>1</sup> See *Connect America Fund, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011).

1 (2) Qwest's switch recognizes from the dialed digits that the called number is on  
2 Level 3's network, not Qwest's.

3 (3) As a result, Qwest's network communicates with Level 3's network to set up  
4 a path for the call to follow between the two networks and on Level 3's network.

5 (4) With that path established, Qwest's switch sends the call out on a trunk that  
6 connects Qwest's network to Level 3's network.

7 (5) The call is handed off to Level 3 at a point of interconnection, or POI,  
8 between the two networks.

9 (6) Level 3 uses its own network facilities, on its side of the POI, to bring the call  
10 to one of its Media Gateways in Seattle.

11 (7) The Media Gateway, functioning as a modem, establishes signaling  
12 parameters with the customer's modem and directs the customer's login  
13 credentials to a server operated by Level 3 to authenticate the customer's  
14 privileges with the ISP being called.

15 (8) The call is either sent out to the Internet, enabling the customer to view web  
16 pages, obtain email, etc., or sent to the customer's ISP, which will then send the  
17 call on to the Internet.

18 **Q. NOW, WITH REFERENCE TO EXHIBIT MDG-2, PLEASE DESCRIBE**  
19 **IN MORE DETAIL HOW LEVEL 3's NETWORK INTERCONNECTS**  
20 **WITH QWEST'S NETWORK IN WASHINGTON.**

1 A. Certainly. I will start with the left-hand side of the diagram and move to the  
2 right. The exhibit shows three different ways that Level 3 exchanged traffic with  
3 Qwest during the relevant time period of this case. In the boxes to the left-hand  
4 portion of the diagram, I have tried to capture a description of what is commonly  
5 referred to as the Public Switched Telephone Network or PSTN – the circuit  
6 based network I spoke about before. Qwest is the incumbent carrier shown in the  
7 diagram here, and the exhibit shows the relationship between an end office and a  
8 tandem switch, and in certain cases, also shows where Level 3 has directly  
9 connected to an end office.

10 The box in the upper left-hand corner shows the Seattle area. There are three  
11 Qwest switches in that box, one subtending a tandem. That subtending switch is  
12 labeled STTLWA03DS0. This type of series of letters and numbers is referred to  
13 as a CLLI (Common Language Location Identifier) code. A CLLI code tells  
14 telecommunications carriers where a piece of equipment is and what type of  
15 equipment it is. When used in combination with the LERG (the “Local  
16 Exchange Routing Guide”), CLLI codes allow carriers to understand how to  
17 route traffic to particular devices on other carriers’ networks. Again, they are  
18 used to identify where a piece of equipment is and what type of equipment exists  
19 at that particular location.

20 The exhibit identifies devices with several different CLLI codes. Using those  
21 codes, we could actually look up the addresses for those various pieces of  
22 equipment that are listed here on the diagram. To help simplify the diagram,  
23 however, I have not included those exact addresses. But everything that is inside

1 of the box labeled “Seattle LCA” is geographically located inside the Seattle  
2 local calling area or LCA.

3 Lower down, the diagram shows the same type of architecture in Spokane. And  
4 then the two boxes at the bottom illustrate the network employed in a VNXX call  
5 flow.

6 To provide context, Level 3 employs VNXX routing to create virtual network  
7 services, where Level 3 does not have its own infrastructure to serve customers  
8 in a local calling area. For example, consider the Pasco area. That location is  
9 served by a Qwest end office switch. Qwest carries traffic bound for Level 3  
10 from the Pasco local calling area to a local calling area where Level 3 either has  
11 its own facilities or a Direct End Office Trunk (“DEOT”), such as, in the  
12 diagram, the Yakima local calling area, where Level 3 has as DEOT. In each of  
13 the boxes showing Level 3 equipment (such as Spokane and Seattle), Level 3 has  
14 established what is known in the industry as a POI, or a point of interconnection.  
15 A POI is a physical demarcation point where Level 3 and Qwest exchange  
16 traffic. Level 3 is responsible for establishing its facilities from its network out to  
17 that POI. In some cases, such as in Seattle, Level 3 may build its own fiber to a  
18 POI. In other areas, such as Yakima, Level 3 may lease the circuit from another  
19 carrier. But in each case, Level 3 is responsible for the financial and operational  
20 aspects of the infrastructure on our side of the POI. By the same token, Qwest is  
21 responsible financially and operationally for the infrastructure on its side of the  
22 POI.

1 **Q. WHAT DO THE PURPLE LINES ON THE DIAGRAM REPRESENT?**

2 A. The purple lines on the diagram show where Qwest and Level 3 have worked  
3 together to provision a circuit that directly connects from an end office switch, or  
4 in some cases a tandem switch, back to the Level 3 network. This arrangement,  
5 which is sometimes called direct trunk transport (“DTT”), provides the most  
6 efficient route for traffic. When Level 3 connects directly to a Qwest end office  
7 switch, Qwest does not need to use the tandem switch to route that traffic to  
8 Level 3. Instead, the end office switch has the intelligence built into it to put  
9 traffic that is destined to Level 3 directly onto that trunk that goes back to our  
10 network. (This is done by virtue of the switch recognizing that particular local  
11 telephone numbers have been assigned to Level 3’s network. Calls to those  
12 numbers will be routed onto direct trunks to Level 3.)

13 **Q. PLEASE EXPLAIN HOW THE DIAGRAM ILLUSTRATES THE**  
14 **CONNECTIONS BETWEEN CIRCUIT-SWITCHED TRAFFIC FROM**  
15 **THE PSTN AND LEVEL 3’S NATIVE IP-BASED NETWORK.**

16 A. On the left of the diagram is the PSTN, or as I described it earlier, the circuit  
17 switched network. Linking the left-hand side of the diagram to the right-hand  
18 side is a circuit that leaves Level 3’s collocation facility in Seattle and comes to  
19 what Level 3 refers to as a gateway facility, also located in Seattle. That  
20 connection, which is indicated by a blue line, is a fiber optic connection. Traffic  
21 comes over that fiber and is then connected to a Media Gateway.

22 **Q. WHAT IS A MEDIA GATEWAY?**

1 A. A Media Gateway is a communications device that serves multiple functions. In  
2 Level 3's network, Media Gateways have the ability to answer modem calls, and  
3 also to allow inbound and outbound connectivity for VoIP (Voice over Internet  
4 Protocol) traffic. The device is intelligent enough to recognize when a data call  
5 is coming in, to use the modem functionality in such cases, and to route the call  
6 down the appropriate path.

7 **Q. GIVEN THIS CONFIGURATION, WHAT IS THE CALL PATH OF A**  
8 **DIAL-UP ISP MODEM CALL?**

9 A. The call starts when it is dialed by the Qwest customer at the left. The call is  
10 then routed through the PSTN over Qwest and Level 3 facilities, all the way to  
11 the Media Gateway. The Media Gateway can function as either a data device  
12 providing modem functionality or as a voice device. An ISP-bound call is a data  
13 call, and the Media Gateway will identify it as such. (As discussed below, the  
14 Media Gateway would know to accept that call on that particular line because it  
15 will have already received information about the incoming call from Level 3's  
16 softswitch, based on communications with Qwest's network.)

17 The use of Media Gateways illustrates one of the differences between the  
18 traditional PSTN and Level 3's network. In the traditional PSTN, the switch  
19 ports – the locations that allow traffic in and off of the network – and the  
20 switching matrix itself are typically contained in one physical box. In the Level  
21 3 network, by contrast, the efficiency of newer technology allows us to separate  
22 those two functions so that the port resides in one device (the Media Gateway)

1 while the intelligence that determines how particular traffic will be handled  
2 resides in the softswitch, which is a physically separate device.

3 **Q. HOW DOES THE SOFTSWITCH ACCOMPLISH THIS TASK?**

4 The softswitch, in effect, speaks two languages. One language – indicated by the  
5 small arrow off the top of the box on the diagram representing the softswitch – is  
6 “SS7” or “Signaling System 7.” SS7 is a protocol used in the industry since the  
7 1980s to allow different switches to talk to one another and to establish a path to  
8 route a call from one location to another. Our softswitch speaks to the Qwest  
9 network, in SS7 protocol, via circuits called “Quad Links” and devices called  
10 “Signal Transfer Points,” or STPs, that are illustrated at the top of the diagram.  
11 To avoid too much clutter on the diagram, the SS7 links are shown there simply  
12 as arrows, but there are actually fully established links – actual physical lines –  
13 between the softswitch and the Level 3 STP, and then from the Level 3 STP to  
14 the Qwest STP, and then to the various switches in Qwest’s network.

15 **Q. WHAT HAPPENS AS THE CALL REACHES THE MEDIA GATEWAY?**

16 A. Continuing to the right on the diagram from the Media Gateway, there are  
17 various routers that facilitate the transfer of traffic. One such router, for example,  
18 is shown inside the Level 3 Seattle facility. There are other routers also  
19 described in the diagram that handle actual packets of data once the call has  
20 passed through the Media Gateway. On the left-hand side of the Media Gateway,  
21 the call can be conceived as an electromagnetic signal, just like any other voice  
22 call would be on a voice line.

1 **Q. WHAT FORMAT WILL THE CALL BE IN AT THAT POINT?**

2 A. The call will be in what is typically called “TDM” or “time division  
3 multiplexing” format. When we speak into the telephone, the microphone in that  
4 telephone is effectively capturing the sound waves that we are generating, and  
5 converting them into electromagnetic pulses that are then put onto a copper line  
6 (called a “loop”) as various electrical frequencies. In many cases, as the call  
7 leaves a particular neighborhood on its way to Qwest’s switch, many such calls  
8 (typically 24 at a time) are converted into a digital signal and then electronically  
9 divided into different “time slots” in a multiplexed digital signal. Each  
10 individual loop uses two copper wires; the so-called “carrier system” that carries  
11 24 calls – that started out on 48 copper wires – uses only four wires to carry all  
12 the calls. Those multiplexed circuits are typically referred to as DS1, or Digital  
13 Service Level 1. (This is sometimes referred to as a T1). For higher capacity  
14 links, the circuit might be a DS3, Digital Service Level 3. A DS1 can carry 24  
15 simultaneous calls. A DS3 has the capacity to handle 28 DS1s, or 672  
16 simultaneous calls. Carriers use those different sized circuits to aggregate large  
17 amounts of traffic from one point to the next.

18 Returning to the diagram, on the left-hand side are the blue lines, the purple lines,  
19 and the solid blue lines or the black lines. All of those lines represent links that  
20 are made up of time division multiplexed, or TDM, circuits. These are dedicated  
21 circuits between one location and the next.

22 **Q. ONCE THE END USER’S MODEM CALL IS CONNECTED TO THE**  
23 **MEDIA GATEWAY, WHAT HAPPENS NEXT?**

1 The links on the Level 3 side of the diagram are shown as dotted or dashed lines.  
2 All of those communications take place in IP, or Internet Protocol. Internet  
3 Protocol differs from time division multiplexing in that it involves packets,  
4 discussed above. Packets can be of different sizes and can go to different  
5 destinations. They are not designed simply to travel between point A and point B  
6 like a private line. As noted above, the destination of a packet is indicated by  
7 addressing information that is inside the packet itself. Where any given packet  
8 goes depends on that address.

9 The Media Gateway converts the information represented by the modem call  
10 from TDM format to IP format – that is, it converts the information into packets.  
11 A variety of steps then occurs.

12 **Q. WHAT HAPPENS FIRST?**

13 A. The first task is to make sure that the customer whose modem is dialing in to a  
14 given ISP actually has a valid account with that ISP. To accomplish that task, the  
15 packets from the end user's modem (which will include log-in credentials,  
16 typically automatically sent by a customer's computer) are first transferred over  
17 to a Level 3 RADIUS (remote authentication dialing) proxy server. That device  
18 authenticates users. In effect, it looks for the user name and password and  
19 validates that the combination is correct. (It is called a "proxy" server because we  
20 store the authentication information only temporarily. It is stored on our network  
21 to facilitate faster response time to the user, but ultimately – as shown further  
22 down on the diagram – the ISP customer, to whom Level 3 sells managed

1 Modem Service, is responsible for the maintenance and management of those  
2 user names and passwords.)

3 Note also that a RADIUS Proxy server can be located anywhere. The login  
4 credentials of a Washington State ISP end user might be validated by a proxy  
5 server in Los Angeles or Virginia or Chicago.

6 **Q. WHAT HAPPENS AFTER THE USER IS AUTHENTICATED?**

7 A. Once the user is authenticated, the call – *i.e.*, the packets – are allowed access out  
8 onto the Internet. At that point, based on what the user types in (or clicks in) at  
9 the user’s computer, the user could access any number of different services:  
10 shopping on Amazon for a book, checking email, or visiting multiple sites at  
11 once. In fact, although one can download a copy of a given website by entering a  
12 single URL (such as [www.nytimes.com](http://www.nytimes.com)), today a typical website is actually  
13 comprised of content (including text, pictures, ads, etc.) that come from a large  
14 number – typically several dozen – different locations around the Internet. That  
15 is, a “single” website does not actually reside in any one place on the Internet.  
16 Instead, a given website is assembled “on the fly” from multiple locations, each  
17 time a copy of it is requested. Thus, even for an organization that might be  
18 physically located in Washington, the content of the organization’s *website* will  
19 typically come from many different states and in some cases even overseas. This  
20 is another reason why all ISP-bound traffic is properly viewed as jurisdictionally  
21 interstate in nature, as opposed to intrastate, as I discuss below.

1 **Q. ON THE EXHIBIT, THERE IS A SERIES OF DARK BLUE DOTTED**  
2 **LINES THAT APPEARS TO CONNECT LEVEL 3 EQUIPMENT ONLY;**  
3 **AND THEN THERE ARE LIGHTER BLUE LINES THAT SEEM TO GO**  
4 **OUT GENERALLY INTO THE BROADER INTERNET. WHAT DO**  
5 **THOSE LINES INDICATE?**

6 A. Those different lines indicate the difference between Level 3-owned Internet  
7 facilities, as opposed to Internet facilities owned by others. Some Internet  
8 facilities are part of what we consider to be our backbone. Stated another way,  
9 these facilities are physically on the Level 3 network. A particular end user's  
10 packets, however, may leave the Level 3 backbone, go to the backbone of  
11 another provider, or go to the unique network of either a Level 3 customer (that  
12 is, an ISP to which we sell managed modem service) or to a provider that houses  
13 the content that the end user (the ISP's customer) is trying to reach.

14 **Q. DO ALL OF YOUR ISP CUSTOMERS USE YOUR MANAGED MODEM**  
15 **SERVICE IN THIS SAME WAY?**

16 A. Most do, but there is one major exception, AOL. AOL is one of Level 3's large  
17 customers. AOL has configured its service so that calls from its customers do  
18 not go directly onto the Internet, which is how most of our other ISP customers  
19 configure things. AOL requires that traffic from its customers first goes to their  
20 network; our hand-off to AOL is in Northern Virginia. AOL itself then handles  
21 actually routing the traffic onto the Internet.

1 **Q. PLEASE SUMMARIZE HOW AN ISP-BOUND CALL IS ROUTED**  
2 **THROUGH THE PSTN, OVER TO LEVEL 3, AND ON TO THE**  
3 **INTERNET.**

4 A. Okay. Let's assume that the user is in Seattle, in the bottom left-hand corner of  
5 that Seattle diagram. And, let's assume that the user's computer is connected to  
6 a second line in their house. That line is connected to the Qwest switch with the  
7 CLLI code STTLWA04DS0. Note on the diagram that in the customer's house,  
8 there is a computer and a modem. The modem would attach to a normal phone  
9 line. The modem could be inside of the computer (most typical today), or it could  
10 sit outside of the computer. The modem can go "off hook" on the phone, just like  
11 when a customer picks up the receiver to dial a call. The modem then "dials" by  
12 sending appropriate tones up the phone line.

13 Most modem manufacturers have configured their equipment so that the end user  
14 can hear the dial tone coming from the phone switch, hear the numbers being  
15 dialed, and then hear the first bit of modem signaling back and forth with the  
16 Media Gateway. This configuration is added as a "human factors" consideration  
17 – people want to know that something is happening once they have tried to log  
18 in, because this process may take 30-40 seconds to actually complete.

19 At this point, the Qwest switch will "listen" to the numbers dialed via tone  
20 signaling and perform a look-up to see where that number should route to. The  
21 Qwest switch will determine that the ISP's number being dialed resides on Level  
22 3's network, and so will begin the process of setting up a call to us.

1 Specifically, the Qwest switch will use the SS7 network to send out a request to  
2 establish the routing of the call over Qwest's network and to Level 3's network.  
3 In colloquial terms, Qwest's SS7 network will say to Level 3's network (via our  
4 STPs), "Hey, I have a user that's trying to make a call to this number, where  
5 should I send it?" And Level 3's network will send back a message that says,  
6 "Great, I got your message, please send the call here," effectively telling the  
7 Qwest switch which trunk to use for the call.

8 **Q. HOW MANY TRUNKS ARE THERE BETWEEN LEVEL 3 AND QWEST**  
9 **IN THE STATE OF WASHINGTON?**

10 A. Just to be clear, a "trunk" in this context refers to a single line or circuit –  
11 something that has the capacity to carry one call. So as noted earlier, a DS1 has a  
12 capacity of 24 calls, also described as 24 trunks. With that clarification, Level 3  
13 and Qwest have more than 35,000 trunks in place today between our networks.

14 **Q. HOW DOES THAT COMPARE TO THE OVERALL SIZE OF LEVEL 3's**  
15 **NETWORK?**

16 A. Nationwide, Level 3 has approximately 1.8 million trunks in service.

17 **Q. DOES THAT FIGURE OF 35,000 TRUNKS INDICATE THE NUMBER**  
18 **OF "LIS," OR "LOCAL INTERCONNECTION SERVICE" TRUNKS**  
19 **THAT LEVEL 3 HAS IN SERVICE WITH QWEST?**

20 A. Yes.

1 **Q. DO THE TRUNKS THAT QWEST CALLS “LIS TRUNKS” GO ALL THE**  
2 **WAY FROM THE QWEST SWITCH TO LEVEL 3’s MEDIA**  
3 **GATEWAY?**

4 A. No. The LIS trunks run from a Qwest switch to a Level 3 POI. On Level 3’s  
5 side of the POI, Level 3 is responsible for building or obtaining connectivity  
6 within its own network. So, on Level 3’s side of the POI, these are not LIS  
7 trunks, they are simply part of Level 3’s network, linking its own POIs to its  
8 Media Gateways.

9 **Q. SO, WHAT HAPPENS TO THE ISP CALL NEXT?**

10 When the softswitch on the Level 3 side has sent Qwest the, “Hey, send the call  
11 here” signal, the Level 3 softswitch signals the Level 3 Media Gateway to expect  
12 a call to come in on this particular channel. The call would then be physically  
13 routed by the Qwest end office switch. The ingress port on that switch would be  
14 the line card on the “line side” of the switch, facing the customer. The egress port  
15 would typically be a direct end office trunk coming back to Level 3, which is that  
16 purple line in the diagram. That purple line would go to a multiplexing device,  
17 called a “mux,” which aggregates individual calls onto a DS1, or aggregates  
18 multiple DS1s onto a DS3.

19 **Q. PLEASE EXPLAIN WHY THERE ARE TWO MUXES IN THE LITTLE**  
20 **SQUARE ON THE DIAGRAM?**

21 A. One of the muxes is Qwest’s and one is Level 3’s. The call will first be muxed  
22 (multiplexed) at Qwest’s end office onto a DS1, and then muxed by Level 3 up to  
23 a DS3 or higher level. Note that both muxes have multiple lines into them,

1 indicating that they are used for the aggregation of several services onto higher  
2 speed circuits.

3 From there – and all of this at this point has happened in Level 3’s collocation  
4 facility in Seattle – the call is traversing a private line, in this case an optical  
5 private line between Level 3’s collocation site and our Seattle gateway, where the  
6 call is connected to our Media Gateway, which – among its many other functions  
7 – “answers” the call and communicates with the end user’s modem. So Level 3’s  
8 Media Gateway, in the case of an ISP-bound call, go through what is called a  
9 “handshake” process with a customer’s modem.

10 **Q. PLEASE DESCRIBE THAT PROCESS.**

11 A. The point of the initial “handshake” is for the modem and the Media Gateway to  
12 figure out the technical parameters of the signaling they will be sending each  
13 other. The squealing and screeching that the computer seems to be making  
14 during this process is signaling back and forth to establish how the two devices  
15 are going to handle, for example, error correction if there’s interference on the  
16 line that could introduce errors. The modems need to continually exchange data  
17 to deal with that. The modems also negotiate the speed of the link, how fast they  
18 can transmit information back and forth without introducing too many errors.  
19 The handshaking process will take a few seconds to occur.

20 **Q. WHAT HAPPENS WHEN THE “HANDSHAKE” IS DONE?**

21 A. At that point, the end user’s software will forward data to the RADIUS proxy  
22 server described above, in a separate protocol to provide for the secure

1 authentication of users. The user name and password would be sent across the  
2 connection from the end user's computer to Level 3's Media Gateway. That  
3 information will then go through various routers, located in any number of  
4 different locations both in and outside of Washington, potentially, to ultimately  
5 land on the Level 3 RADIUS proxy server. That server has a connection out to  
6 our ISP customer's own internal server to validate that the user has the  
7 appropriate privileges to get onto the network. Assuming that checks out, the  
8 RADIUS server sends a signal all the way back to the end user's software to say,  
9 "Yes, in this case you are authenticated and you are able to access the network."

10 **Q. WHAT HAPPENS ONCE THE USER IS AUTHENTICATED?**

11 A. At that point, the user can start to actually access content and services on the  
12 Internet. Suppose, for example, that the user wants to shop on Amazon. The  
13 user would launch his or her web browser and enter "[www.amazon.com](http://www.amazon.com)," which  
14 causes the web browser to send a request out to the Internet for a copy of that  
15 web page. Note that "behind the scenes" that entry is translated from something  
16 that is meaningful to people into a series of numbers known as an "IP address"  
17 that can be understood by routers on the Internet. Once that happens, the  
18 Amazon.com server – which could be literally anywhere on the Internet – will  
19 assemble a copy of its current web page back for the customer. (Note that, as  
20 discussed above, any given web page is typically assembled on the fly using  
21 content from a large number of different locations.) At the next moment, the  
22 user could launch her or his email service. The local email "client" would send  
23 packets out to the Internet that would be routed to the end user's email provider,

1 which would then send packets back that represent the user's current email boxes  
2 – that is, the end user would download their email..

3 **Q. WHAT ARE THE DIFFERENT PROTOCOLS THAT ARE USED IN**  
4 **THIS PROCESS?**

5 A. There are various protocols that are used throughout this process. There are  
6 digital signaling protocols used to convert the electromagnetic signals on the  
7 customer's copper loop to a DS1 or DS3 multiplexed service. There are optical  
8 protocols used to convert electrical DS1 or DS3 signals to light pulses on optical  
9 fiber. There are various Internet protocols that are used as well. For example, if  
10 you look at the actual listing of many web pages, they say, at first, "<http://>". This  
11 stands for "hyper-text transport protocol," which is the protocol mainly used to  
12 exchange information concerning Web pages. Normal e-mail works on another  
13 protocol, called SMTP, or "simple mail transport protocol." And all of these  
14 things work together to provide a usable service commonly referred to as Internet  
15 access.

16 **Q. REFERRING BACK TO THE DIAGRAM, YOU SHOW A MANAGED**  
17 **MODEM CUSTOMER NETWORK. DO LEVEL 3's ISP CUSTOMERS**  
18 **HAVE THEIR OWN MODEMS, OR DOES LEVEL 3 SUPPLY MODEMS**  
19 **THAT ISP CUSTOMERS THEN USE?**

20 A. Our ISP customers do not have their own modems; the point of the "managed  
21 modem" product is that Level 3 handles the modem functionality our ISP  
22 customers need to have their end user customers reach them via a dial-up  
23 connection. Looking at the diagram, in the middle you will see the managed

1 modem customer network. The formal name of the product is Level 3 Connect  
2 Managed Modem. That product is actually made up of a bundle of services that  
3 includes interconnection, or access to the PSTN, which includes the modem  
4 functionality that I just described. And, for most of our ISP customers – AOL  
5 being the exception – our service bundle also includes the provision of access to  
6 the Internet itself. The service does not include the servers used by our ISP  
7 customers – the servers to which the customer’s call is initially sent.

8 **Q. ARE ALL THE MODEMS THAT LEVEL 3 USES TO PROVIDE THIS**  
9 **SERVICE LOCATED IN SEATTLE?**

10 A. All the modems that Level 3 uses to provide PSTN connectivity in Washington  
11 to dial-up ISP customers (actually, as described above, our Media Gateways) are  
12 in Seattle. Seattle serves the entire Pacific Northwest, meaning that ISP  
13 customers who obtain PSTN connectivity for Oregon, Idaho, and Montana also  
14 use the Seattle modems/Media Gateways. In fact, Level 3 has aggregated its  
15 modem functionality in thirteen different locations throughout the United States.  
16 Each of these locations serves a multistate area.

17 **Q. THE EXAMPLE YOU JUST DESCRIBED STARTED WITH AN END**  
18 **USER LOCATED IN SEATTLE. PLEASE EXPLAIN THE CALL**  
19 **ROUTING IF THE END USER IS LOCATED OUTSIDE THE SEATTLE**  
20 **LOCAL CALLING AREA.**

21 A. The call routing is basically the same. If we do have a trunk connected directly  
22 to the Qwest end office switch serving the customer (which we do even in  
23 locations outside the Seattle calling area) the call routing is essentially identical

1 to what was described above. If we do not have a direct trunk, then when the  
2 Qwest end office switch looks up how to route the call, the call will first go to a  
3 second Qwest switch where Level 3 *does* have a direct trunk. This switch is  
4 typically called a “local tandem” switch. At that point the routing is as described  
5 above – the call gets sent over direct trunk transport from Qwest’s network to the  
6 nearest Level 3 POI, and we then carry the call back to the Level 3 Seattle  
7 gateway.

8 **Q. SO, IN THIS CASE, BEFORE THE ISP-BOUND CALL WAS PLACED**  
9 **ON THE DIRECT TRUNK TRANSPORT IT WOULD BE CARRIED**  
10 **OVER QWEST-SUPPLIED LIS TRUNKS?**

11 A. Yes.

12 **Q. IS THERE ANYTHING SPECIAL ABOUT THE LIS TRUNKS FROM A**  
13 **TECHNICAL PERSPECTIVE?**

14 A. No. A trunk is a trunk. A LIS trunk is perfectly capable of carrying all types of  
15 traffic. “LIS” is simply the brand name, so to speak, that Qwest has added to  
16 trunks that it provides to CLECs with which it interconnects. Technically there  
17 is no difference between a LIS trunk and any other trunk that handles locally  
18 dialed and routed traffic.

19 **Q. ARE THE TRUNKS USED TO HANDLE LONG DISTANCE TRAFFIC**  
20 **ANY DIFFERENT?**

21 A. Not as trunks *per se*. The signaling between a local network and a long distance  
22 network is in some respects different from the signaling between two local

1 networks, but the physical means of transmitting a voice call on the PSTN is the  
2 same in both cases.

3 **Q. DO ANY OF QWEST'S ACTIVITIES IN ROUTING THE CALL**  
4 **CHANGE BASED ON WHERE THE MEDIA GATEWAYS ARE**  
5 **LOCATED?**

6 A. No. Qwest's part of the call routing is determined entirely by where Level 3  
7 connects with Qwest – the location of the POI – not by anything that happens on  
8 Level 3's side of the POI. I do understand, of course, that the "VNXX" traffic in  
9 dispute in this case involves arrangements where the modem functionality used  
10 to handle calls to an ISP does not physically occur within the originating caller's  
11 local calling area.

12 **Q. THUS FAR YOU HAVE BEEN DESCRIBING THE ROUTING OF ISP-**  
13 **BOUND CALLS WHERE THE CALLING PARTY DIALS A LOCAL**  
14 **NUMBER. WHAT IF THE CALLING PARTY DIALS THE NUMBER OF**  
15 **AN ISP SERVED BY LEVEL 3, NOT AS A LOCAL CALL, BUT AS A**  
16 **LONG DISTANCE CALL?**

17 A. Let me first say that this scenario is very rare. From the very beginning of dial-  
18 up Internet access, consumers have objected to, and avoided when possible,  
19 making use of calling arrangements that result in their having to pay any per-  
20 minute or toll charges, whether to a long distance carrier (toll charges), to a local  
21 carrier (local measured service or message unit charges) or to their ISP (online

1 usage charges). The reluctance of consumers to accept usage-based charges as  
2 part of using dial-up Internet access has been noted in various cases.<sup>2</sup>

3 If such a situation were to occur, however, the call routing would be entirely  
4 different. When the customer dials a long distance call (that is, when the  
5 customer dials a number outside its local calling area), often the customer has to  
6 dial a “1” first, in order to signal the network that a toll call is involved. Whether  
7 a “1” is dialed or not, for a long distance call, the Qwest end office switch  
8 serving the customer will recognize that the dialed number is not included in the  
9 caller’s local calling plan. At that point, the switch will look up the customer’s  
10 chosen long distance carrier (this information is stored in each end office switch).  
11 If the long distance carrier has a direct trunk connection to that end office, the  
12 call will go out on that trunk; if not, the call will go to Qwest’s access tandem,  
13 and be routed to the long distance carrier from there. At that point, assuming that  
14 the dialed number corresponds to a Level 3 ISP customer in Seattle, the  
15 customer’s long distance carrier would route the call to Qwest’s access tandem in  
16 Seattle. The Seattle access tandem would recognize the call as bound for Level  
17 3’s network and hand it off to Level 3 at Level 3’s collocation arrangement in the  
18 Qwest Seattle tandem office. At that point, the call would be routed essentially  
19 as described above.

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<sup>2</sup> For example, in a very early case involving dial-up calls to ISPs, the New York Public Service Commission noted that if consumers in rural areas had to pay toll charges to reach their ISPs, “this could make Internet access service unattractive to many consumers in outlying areas.” *Ordinary Tariff Filing of Citizens Telephone Company of New York, Inc.*, Order Denying Petition for Rehearing, 1998 N.Y.P.U.C. LEXIS 509 (NY PUC 1998) at [\*2]. More recently, the Oregon PUC upheld a decision of its arbitrator that was based on the observation that “imposing access charges on dial-up Internet traffic is unlikely to produce significant access revenues because users are unwilling to pay toll rates to access the Internet.” *Level 3 Communications, LLC Petition for Arbitration*, Order No. 07-098, ARB 665, 2007 Ore. PUC LEXIS 88 (Ore. PUC 2007) at [\*5].

1 An exception would be where a long distance carrier has a direct connection in to  
2 Level 3's network. In that case, while the long distance carrier could send the  
3 call to Qwest's tandem, the long distance carrier could also send the call directly  
4 to Level 3's network. In this regard, while the long distance carrier would likely  
5 bring the call to Level 3 in Seattle, Level 3 offers services that allow long  
6 distance carriers to deliver traffic to Level 3 at a number of different locations  
7 around the country, no matter where the call is actually bound.

8 In addition to the different call routing, if a toll call were involved, there would  
9 be a number of other functions to be performed as well. Perhaps most notably,  
10 the local carriers involved (Qwest and Level 3) would need to record the call  
11 detail information so that the long distance carrier in the middle (whichever  
12 carrier the end user chose to carry the call) could be billed access charges.

13 **IV. ACCESS CHARGES DO NOT APPLY TO VNXX TRAFFIC.**

14 **Q. IS IT YOUR UNDERSTANDING THAT QWEST IS SEEKING ACCESS**  
15 **CHARGES FOR VNXX ISP-BOUND TRAFFIC IN THIS CASE?**

16 A. My understanding is that Qwest has recently taken the position that it is owed  
17 access charges on past traffic. However, that was not my understanding based  
18 upon my reading of the counterclaims that Qwest originally filed in this case, or  
19 the complaint that Qwest filed in the *Generic Proceeding*, UT-063038.

20 **Q. DO YOU AGREE WITH QWEST'S POSITION?**

1 A. No, I do not. Even if Qwest had asked for access charges in this case, I do not  
2 believe that Qwest is entitled to receive access charges on VNXX ISP-Bound  
3 traffic.

4 **Q. WHY NOT?**

5 A. There is a lot of loose talk in the industry of “access charges” being owed by  
6 interexchange carriers simply because traffic originates in one local calling area  
7 (or exchange) and terminates in another. But, that is not how the process works.  
8 Access is a tariffed service – in this case, it is a service for which Qwest has filed  
9 state and federal tariffs, and that service is governed by those tariffs. Thus, one  
10 needs to examine the traffic at issue and compare it to the tariffs that might apply  
11 to the service. If there is a fit, then access charges may be due; if the tariff does  
12 not describe the service, then access charges are not due.

13 I would emphasize that it would not have been hard for Qwest to actually write a  
14 tariff that took the position that Qwest now seems to want to take. Language that  
15 said something like, “switched access charges are due whenever traffic originates  
16 in one exchange and terminates in another” would have made that point clearly  
17 enough. But, that is not what the tariff says. Section 6 of Qwest’s intrastate  
18 access tariff, which governs switched access services, is over 150 pages long and  
19 contains detailed descriptions of the services that Qwest provides. In fact,  
20 section 6.2 of the tariff says that: “Each service is described in terms of its  
21 specific physical characteristics and calling patterns, the transport provisioning,  
22 the transmission specifications with which it is provided, the optional features

1 available for use with it and the standard testing capabilities.” (I am quoting here  
2 and in the rest of my testimony from Qwest Tariff WN U-44, which was attached  
3 as Exhibit H to Level 3’s motion for summary determination. The language in  
4 Qwest Tariff WN U-48, which is the subject of a stipulation among the parties, is  
5 essentially identical.)

6 This language says that to determine what “access services” Qwest provides  
7 under the tariff, it is necessary to look at the “specific physical characteristics”  
8 and the “calling patterns,” etc. involved. Services that are described accurately in  
9 the tariff are subject to the charges in the tariff. It follows then that, if a serving  
10 arrangement is not described in the tariff, it cannot be subject to access charges.

11 This is just common business sense. Businesspeople write and negotiate  
12 contracts all the time, and pay attention to the descriptions of what they are  
13 buying and selling – and the associated prices – so that there will not be  
14 confusion later on about who is supposed to do what, and who is supposed to get  
15 paid what. So, to determine whether the VNXX arrangements at issue in this  
16 case are covered by the tariff, it is necessary to compare those arrangements with  
17 the “physical characteristics” and “calling patterns” described in Qwest’s tariff.

18 **Q. FIRST, COULD YOU GIVE A BIT MORE DETAIL ON THE**  
19 **DIFFERENCES BETWEEN A SWITCHED ACCESS CALL – THE LONG**  
20 **DISTANCE CALL DESCRIBED ABOVE – AND A LOCAL CALL, IN**  
21 **YOUR ISP DIAL-UP SCENARIO?**

1 A. Yes. As a matter of industry practice, a switched access call is governed by a  
2 switched access tariff, while a local call is governed by a local tariff. Among  
3 other differences, in simple business terms, the customer buying an access  
4 service is a long distance carrier that has subscribed to a carrier's access service  
5 under its access tariff, while the customer buying a local call is an end user that  
6 has subscribed to a carrier's local service under its local tariff. There is good  
7 reason for this distinction, because the facilities used for these types of calls are  
8 different, and the carriers involved in these types of calls are different.

9 With that background, I have reviewed Qwest's intrastate access tariff to see if it  
10 applies to the traffic at issue, and clearly, it does not. As I discussed above, the  
11 tariff states that it provides "detailed descriptions of each of the available  
12 Switched Access Services." As a factual, technical matter, the serving  
13 arrangements described in the tariff do not depict the serving arrangements  
14 applicable to the VNXX ISP-bound traffic. (Note that I reviewed the intrastate  
15 tariff. If the *interstate* tariff is involved, the FCC would have to decide how it  
16 applies. That said, the technical service descriptions in the two tariffs are  
17 essentially identical.)

18 **Q. WHAT SERVICES DOES QWEST'S TARIFF DESCRIBE?**

19 A. Qwest's tariff describes four "Feature Group" access services, known as Feature  
20 Groups A, B, C and D, and also describes some additional services, such as  
21 special arrangements for "8YY" and "900" calls. As noted, none of the service  
22 arrangements described in the tariff correspond to the way in which ISP-bound  
23 calls are routed between Qwest and Level 3. So, whatever it is that Qwest is

1 providing Level 3 in this situation (or vice versa), it is not a tariffed switched  
2 access service.

3 **Q. PLEASE ADDRESS THE VARIOUS “FEATURE GROUP” ACCESS**  
4 **SERVICES DESCRIBED IN QWEST’S TARIFF AND HOW THEY**  
5 **RELATE TO THE CALL ROUTING APPLICABLE TO ISP-BOUND**  
6 **TRAFFIC.**

7 A. Feature Group A is an access arrangement in which Qwest assigns a normal  
8 business line with a normal business telephone number to a long distance carrier.  
9 The long distance carrier’s customers can then dial that normal business line to  
10 reach the long distance carrier’s network. (In this arrangement, the customer will  
11 be prompted to enter account information to validate its relationship with the  
12 long distance carrier, and then enter the long distance number actually being  
13 called.) There is a certain similarity between Feature Group A and a VNXX  
14 arrangement, in that in each case the call starts with a locally-dialed number, but  
15 the two are really very different. Most notably, Qwest’s tariff defines Feature  
16 Group A service as involving “[a] seven-digit local telephone number *assigned*  
17 *by the Company*” – that is, assigned by *Qwest* – that is “provided for access to  
18 FGA in the originating direction.”<sup>3</sup> Here, the telephone number provided to the  
19 ISP is assigned by Level 3, not Qwest, thus taking the service outside the  
20 definition of Qwest-provided FGA.<sup>4</sup>

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<sup>3</sup> *Id.*, § 6.2.1(A)(5) (emphasis added).

<sup>4</sup> Theoretically, one might be able to view the service that Level 3 provides to its dial-up ISP customers as a form of Feature Group A service, but that would not, under industry rules and practices, result in any charges from Qwest to Level 3. Instead, at most, that would create an

1 Feature Group B is similar to Feature Group A, except that the number assigned  
2 by Qwest would not be a normal business number. Instead, under Feature Group  
3 B, the assigned number would be in the “form of uniform access code 950-  
4 XXXX for carriers.”<sup>5</sup> That is, Feature Group B is a special calling arrangement  
5 in which Qwest provides long distance carriers with connections to its network,  
6 and routes to those connections only those calls that customers dial using the  
7 “950-XXXX” calling pattern. Obviously, that does not describe the call dialing  
8 and routing arrangements at issue here.

9 Feature Group C is entirely inapplicable. By definition, Feature Group C is the  
10 old-style, essentially hard-wired form of access that local carriers historically  
11 provided to the old AT&T (and, according to Qwest’s discovery responses, to  
12 itself) back at the time of the break-up of the Bell System in 1984.<sup>6</sup>

13 Feature Group D, or equal access, is also not applicable here. Feature Group D is  
14 the arrangement that allows an end user to presubscribe to a long distance carrier  
15 so that any long distance calls the customer dials will automatically be handed  
16 off by Qwest to that chosen long distance carrier. This arrangement also gives  
17 the long distance carrier a “101XXXX” code so that even end users not  
18 presubscribed to the carrier can easily reach the carrier to make long distance

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obligation on Qwest and Level 3 to negotiate some reasonable arrangement for sharing revenues from the affected long distance carrier. Nothing would prohibit the establishment of (*e.g.*) a bill-and-keep arrangement in such situations. *See Access Billing Requirements for Joint Service Provision*, Memorandum Opinion and Order, 4 FCC Rcd 7183 (Common Carr. Bur. 1989) ¶¶ 22-23.

<sup>5</sup> *Qwest Intrastate Tariff*, § 6.2.2(A)(6).

<sup>6</sup> The tariff provides that “FGC access . . . is available only to providers of MTS and WATS . . . .” *Id.*, § 6.2.3(A)(1). “MTS” and “WATS” are specific terms used to describe services that the Bell System utilized itself at the time of its break-up.

1 calls. While most of Qwest's end users are probably presubscribed to an  
2 interexchange carrier, and many such carriers have been assigned 101XXXX  
3 codes,<sup>7</sup> none of this comes into play when an end user dials a VNXX number  
4 assigned by Level 3 to a particular ISP.

5 **Q. WHAT OTHER KINDS OF SWITCHED ACCESS SERVICE ARE**  
6 **DESCRIBED IN QWEST'S TARIFFS?**

7 A. The tariff describes several other arrangements. One is "DID Switched Access  
8 Service." That service provides "trunk side switching with line treatment via  
9 DTT [direct trunked transport]."<sup>8</sup> That service appears to be a variant of Feature  
10 Group A access, in which the local numbers are assigned for interexchange  
11 access in a "direct inward dialing" arrangement rather than a simple Feature  
12 Group A line with a single telephone number. This clearly does not describe  
13 what is going on in the VNXX context.

14 The tariff also identifies "8XX" access and "900" access -- neither of which  
15 apply here. Those access services require that the end user dial an "8XX" and  
16 "900" number, and provide for special routing arrangements when a customer  
17 does so.<sup>9</sup> Specifically, when a customer dials a number in one of those formats,  
18 Qwest undertakes to perform a special database lookup to determine which  
19 specific interexchange carrier has been designated by the customer (typically a  
20 business customer in a distant location) that will be receiving the calls, to handle

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<sup>7</sup> See *id.*, § 6.2.4(A)(8).

<sup>8</sup> *Id.*, § 6.2.5(A)(1).

<sup>9</sup> *Id.*, §§ 6.2.6(A), 6.2.7.

1 calls dialed to that particular number. Obviously, VNXX ISP-bound traffic is not  
2 dialed in this way and does not involve any database lookup services provided by  
3 Qwest or anyone else. These are simply entirely different services from VNXX  
4 calling arrangements.

5 **Q. IN ITS RESPONSES TO DISCOVERY, QWEST HAS STATED THAT**  
6 **“ALL OF THESE RATES AND CHARGES (REFERRING TO**  
7 **SWITCHED TRANSPORT, INCLUDING DIRECT TRUNKED**  
8 **TRANSPORT, TANDEM SWITCHING AND TRANSPORT, ENTRANCE**  
9 **FACILITIES AND MULTIPLEXING AND LOCAL END OFFICE**  
10 **SWITCHING) WOULD HAVE BEEN APPLICABLE TO LEVEL 3 IN**  
11 **PROVIDING AN INTEREXCHANGE SERVICE, BUT FOR LEVEL 3’S**  
12 **AVOIDANCE OF THESE CHARGES BY CONCEALING THE NATURE**  
13 **OF THE TRAFFIC USING VNXX NUMBERING.” SEE QWEST**  
14 **RESPONSE TO SECOND SET OF RESPONSES TO LEVEL 3, DATA**  
15 **REQUEST 2.2, ET SEQ. PLEASE COMMENT ON THAT ASSERTION.**

16 A. For clarity of the record, I am attaching Qwest’s Second Set of Responses to  
17 Level 3 as Exhibit MDG-3. As to the assertion contained in Qwest’s data request  
18 responses, Qwest is incorrect, both as a factual and as a common sense matter.  
19 Factually, in the first instance, in no sense at all did the use of a VNXX dialing  
20 arrangement “conceal” anything. VNXX dialing was being widely deployed  
21 even before the FCC’s 2001 *ISP Remand Order*, and was well-known in the  
22 industry, both to CLECs and ILECs, by that time. In fact, in the proceedings  
23 leading up to the *ISP Remand Order*, some ILECs complained that CLECs

1 should not get full reciprocal compensation rates for ISP-bound calls precisely  
2 because VNXX arrangements were more efficient – less costly to the CLEC –  
3 than physically placing ISP modems in numerous different local calling areas  
4 throughout a LATA. Moreover, in a *Notice of Proposed Rulemaking* issued on  
5 the same day as the *ISP Remand Order*, the FCC specifically asked for comment  
6 on issues surrounding the use of VNXX arrangements.<sup>10</sup>

7 Moreover, the significance of VNXX arrangements for intercarrier compensation  
8 purposes has been hotly debated in the industry for close to 15 years (which itself  
9 says something). Qwest was certainly aware of it, as it was Qwest’s refusal to  
10 pay Level 3 for VNXX ISP-Bound traffic which led to Level 3’s petition for  
11 enforcement, initiating this proceeding. Qwest also commenced the *Generic*  
12 *Proceeding*, UT-063038 by filing a document styled “Complaint of Qwest  
13 Corporation for an Order Prohibiting VNXX.” The phenomenon was clearly  
14 very well known to Qwest, and the use of VNXX dialing arrangements did not  
15 “conceal” anything from anyone.

16 Based on my understanding of its general views, Qwest may intend to convey the  
17 concept, by its statement in its data request response, that the use of VNXX  
18 confused its switches and other network gear so that they would not recognize  
19 VNXX calls as involving calls that begin in one local calling area and terminate  
20 in another local calling area. But that assertion is also factually incorrect.  
21 Remember that what generated this case was Qwest’s *refusal to pay reciprocal*

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<sup>10</sup> *Developing a Unified Intercarrier Compensation Regime*, Notice of Proposed Rulemaking, 16  
FCC Rcd 9610, ¶ 115 (2001).

1           *compensation on VNXX traffic.* That refusal – logically and factually –  
2 demonstrates that Qwest had some means of identifying VNXX-dialed traffic as  
3 such. Even if the means of identifying the traffic was not perfect, Qwest was  
4 able to: (a) determine that its customers were dialing VNXX traffic that was  
5 being handed off to Level 3; (b) estimate the amount of such traffic; and (c)  
6 withhold payment of reciprocal compensation on the basis of those estimates.

7           In this regard, I note that there are situations explicitly addressed in Qwest’s  
8 access tariff where it requires reports from interexchange carriers where Qwest  
9 may not be able to determine the nature of the traffic with precision. For  
10 example, sections 2.3.10(B), (B)(2)(c), (B)(3)(b) of the tariff require that  
11 interexchange carriers file percent interstate use reports that enable Qwest  
12 properly to separate traffic into the interstate and intrastate jurisdictions where  
13 that separation cannot be determined from the information in the call stream  
14 itself (*i.e.*, Calling Party Number information is missing). I annex the relevant  
15 pages from section 2.3.10 of the Qwest tariff of Qwest Tariff WN U-44 as  
16 Exhibit MDG-4.

17           Finally, it is clear that, *had* Qwest wished to impose access charges on VNXX  
18 traffic, it could have authored a new section of its access tariff entitled “VNXX  
19 Access” and filed it with the Commission. Note that Qwest actually added a  
20 section to its interstate access tariff entitled “500 Access Service” to  
21 accommodate the opening of the 500 Service Access Code. I annex the relevant  
22 pages from Qwest’s interstate access tariff as Exhibit MDG-5. This proves that  
23 Qwest knows how to add sections to its access tariff to accommodate new or

1 different offerings. In the case of VNXX traffic, Qwest chose (for whatever  
2 reasons) not to do so.

3 **Q. QWEST HAS ALSO STATED IN DISCOVERY THAT THE LEVEL 3**  
4 **ICA REFERS TO SWITCHED ACCESS SERVICES AS INCLUDING**  
5 **THEIR “SUCCESSORS OR SIMILAR SWITCHED ACCESS SERVICES”**  
6 **AT RESPONSE 2.5 IN EXHIBIT MDG-3. DOES THAT LANGUAGE**  
7 **SUGGEST THAT ACCESS CHARGES APPLY IN THIS CASE?**

8 A. No. When someone wants to buy a highly technical service like switched access,  
9 details matter a great deal. Is a standard business line a switched access service?  
10 After all, it is clearly “similar” to Feature Group A. How about wireless service?  
11 People use their wireless phones to make long distance calls all the time. Does  
12 that mean that wireless service is a “successor service” to Qwest’s access  
13 service? I know that the attorneys will address this in more detail, but  
14 businesspeople in the telecommunications industry, and elsewhere, understand  
15 that a contract has to be clear and specific. As a practical matter, vague phrases  
16 like “similar and successor services” do not meet that test. It would be plainly  
17 unfair to say that Qwest can impose millions of dollars of access charges on  
18 Level 3 on the ground that the VNXX arrangement is in some way “similar” to  
19 some form of switched access service.

20 That said, I don’t actually see very much “similarity” here. In a VNXX situation,  
21 Qwest routes locally-dialed calls over locally-established facilities to a local POI  
22 with Level 3. The thing that makes VNXX distinct is not what Qwest does with

1 the calls – that is, not with any “service” that *Qwest* could be said to be  
2 providing. What makes it distinct is what *Level 3* does with the calls.

3 I would (and do) interpret the language as referring to other switched access  
4 services that may have been added to the tariff subsequent to the execution of the  
5 ICA – like 500 access, that I just described. Moreover, because the definition of  
6 Switched Access Service also states that “Switched Access Service is “a tariffed  
7 product and is subject to the terms and conditions of the Qwest Switched Access  
8 Tariffs as modified from time to time,” I would conclude that the “successor and  
9 similar” language cannot reasonably be interpreted as a catch-all that would  
10 cover anything that might catch Qwest’s fancy as deserving of being assessed  
11 access charges whether or not that “anything” is specifically described in the  
12 tariff.

13 **Q. SO, IS THE TRAFFIC AT ISSUE IN THIS CASE SWITCHED ACCESS**  
14 **TRAFFIC?**

15 A. No. I understand that there are some legal issues involved in the question of  
16 whether Qwest can apply switched access rates, but based on my review of  
17 Qwest’s tariff, and on my many years of experience in the industry, this is clearly  
18 not switched access traffic. As a practical business matter, “access service” is  
19 what you get when you buy service from a local carrier’s access tariff and use the  
20 technical arrangements laid out in that tariff. That is simply not the case with the  
21 VNXX calls to dial-up ISPs I described earlier.

1 **Q. PUTTING ASIDE THE SPECIFICS OF TARIFF LANGUAGE, WOULD**  
2 **IT BE FAIR OR REASONABLE TO APPLY ACCESS CHARGES TO**  
3 **THE VNXX TRAFFIC AT ISSUE IN THIS CASE?**

4 A. No.

5 **Q. WHY NOT?**

6 A. There are several reasons. First, as noted above, Qwest has long been aware of  
7 the existence of VNXX ISP-bound traffic. If it had wanted such traffic to be  
8 subject to its tariff, it would have been a simple matter for it to propose a new  
9 section of the tariff dealing specifically with VNXX. It did not do so.

10 Second, Qwest's pleadings in this case have never included a request for the  
11 imposition of access charges as a form of relief. Instead, while Qwest disagreed  
12 with Level 3 about whether the FCC's compensation regime for ISP-bound  
13 traffic applied, it remained silent as to any form of retroactive relief.

14 Third, Qwest never sent Level 3 a bill for access charges. As noted above,  
15 Qwest was well aware that it was sending VNXX traffic to Level 3, and believed  
16 that it was able reasonably to estimate the amount of such traffic. If it had really  
17 thought that access charges applied, it would have been a simple matter to not  
18 merely protest (and refuse to pay) Level 3's bills for reciprocal compensation,  
19 but to bill Level 3 access charges if, in fact, Qwest thought access charges  
20 applied.

21 Fourth, as a result of these actions (and inactions) by Qwest, Level 3 was never  
22 reasonably put on notice it might be required to pay access charges on VNXX

1 calls. Had Level 3 been directly and forthrightly advised that Qwest would be  
2 pressing for access charges, Level 3 would at least have had the option of  
3 reconfiguring its network to deploy modems (or Media Gateways) strategically  
4 around Washington so as to minimize the amount of VNXX traffic by ensuring  
5 that there was always a Media Gateway located in the calling area of most if not  
6 all potential callers. While that would have been technically inefficient, it would  
7 have allowed Level 3 to protect itself against the prospect of paying access  
8 charges. It would be highly unfair to retroactively charge Level 3 access charges  
9 when Level 3 could have modified its own network to avoid them, had it known  
10 that Qwest had, in any way, put the recovery of access charges at issue in this  
11 case.

12 Fifth, if Level 3 had been liable for access charges in connection with its dial-up  
13 ISP services, Level 3 could have built those costs into the prices it charged its  
14 ISP customers and the ISPs, undoubtedly, would have included those costs in the  
15 prices for their services. Now, years after the fact, it is impossible for Level 3 to  
16 go back and renegotiate contracts with numerous ISPs – some of whom may no  
17 longer even be in business – for already-provided services. Indeed, it is  
18 impossible, at this late date, to reconstruct which calls were made from which  
19 end users to which ISPs, making any calculation of costs attributable to a given  
20 ISP impossible, even if the ISPs could be made to pay those amounts  
21 retroactively, which they cannot be. And, even if the ISPs could be made to pay  
22 such amounts, it seems likely that they would try to recover those costs from  
23 their end users, making the consumers of dial-up services the ultimate losers.

1 **Q. ARE THERE OTHER CONSIDERATIONS THAT WOULD MAKE IT**  
2 **UNFAIR TO REQUIRE LEVEL 3 TO MAKE ACCESS PAYMENTS AT**  
3 **THIS TIME?**

4 A. Yes. Based upon the Commission's decision in 2003 and the interconnection  
5 agreement that reflected that decision, Level 3 expended large amounts of capital  
6 and heavily invested in its network in Washington to allow its ISP customers to  
7 provide their services to the Washington citizens that were the ISP's subscribers.  
8 It was based upon that ruling and that agreement that Level 3 made such  
9 investments. If the Commission were to reverse course at this time, not only  
10 would it send a message to all carriers about future investments, but it would be  
11 unfair to Level 3 that after all this time Qwest was to get a windfall and Level 3  
12 would be penalized for its reliance.

13 In this regard, as noted above, it is widely understood that customers will not  
14 make long distance, usage-sensitive calls to reach their ISPs. If Qwest's position  
15 regarding access charges had been in place in the past, then it would have been  
16 necessary to charge customers toll charges to reach their ISPs, and the traffic at  
17 issue would never actually have existed. It seems unfair for Qwest to be pushing  
18 for the retroactive imposition of a charging regime which – had it actually been  
19 in place – would have suppressed all or essentially all of the traffic on which  
20 Qwest wants to get paid.

21 In these circumstances, even if one could somehow stretch the language of  
22 Qwest's tariff to cover VNXX traffic, or even if there were some generic policy

1 rationale for imposing access charges on this traffic, it would be unfair and  
2 unreasonable to impose any such charges retroactively.

3 **V. JURISDICTION OF ISP-BOUND CALLS.**

4 **Q. BASED ON YOUR EXPERIENCE IN THE INDUSTRY, DO YOU**  
5 **UNDERSTAND THE DIFFERENCE BETWEEN TRAFFIC AND**  
6 **SERVICES THAT ARE SUBJECT TO THE FCC'S JURISDICTION, AS**  
7 **OPPOSED TO TRAFFIC AND SERVICES THAT ARE SUBJECT TO**  
8 **THE JURISDICTION OF THE STATES?**

9 A. Yes, I do. Traffic that begins in one state and ends in another is interstate traffic.  
10 That traffic, and services offering to carry or route such traffic, are interstate  
11 services subject to the regulatory authority of the FCC. Traffic that begins and  
12 ends in the same state, and services offering to carry or route such traffic, are  
13 intrastate services subject to the regulatory authority of the state in question.  
14 Except for traffic governed by an interconnection agreement, states do not get  
15 involved in setting rules or rates for traffic that is interstate.

16 **Q. WHY ARE THINGS DIFFERENT WITH RESPECT TO TRAFFIC**  
17 **COVERED BY AN INTERCONNECTION AGREEMENT?**

18 A. As I understand it, under the 1996 Act, Congress gave states the job of  
19 approving, establishing and implementing negotiated or arbitrated  
20 interconnection agreements, to facilitate local competition. Those  
21 interconnection agreements sometimes deal with interstate traffic, and to that  
22 extent, states can and do get involved in interstate matters.

1 **Q. AS A FACTUAL MATTER, DOES THE TRAFFIC IN DISPUTE**  
2 **BETWEEN LEVEL 3 AND QWEST IN THIS CASE ARISE UNDER AN**  
3 **ICA?**

4 A. No, although Level 3 originally thought that it did. We amended our ICA with  
5 Qwest to say that ISP-bound traffic would be handled in accordance with the  
6 FCC's requirements in the *ISP Remand Order* from 2001. Level 3 thought that  
7 that order covered VNXX ISP-bound traffic, but my understanding is that a court  
8 in Washington ruled that it did not. Apparently, according to the court, the only  
9 ISP-bound traffic covered by the ICA is traffic where the caller and the modem  
10 serving the ISP are in the same local calling area. As far as I can see, the only  
11 provision in the Qwest-Level 3 ICA that would have brought VNXX ISP-bound  
12 traffic within its scope was that provision about ISP-bound traffic. So, it seems  
13 clear to me that VNXX ISP-bound traffic simply falls outside the scope of the  
14 ICA.

15 **Q. GIVEN THAT THE TRAFFIC DOES NOT FALL WITHIN THE**  
16 **PARTIES' ICA, IS IT YOUR UNDERSTANDING THAT THE**  
17 **WASHINGTON COMMISSION NEVERTHELESS HAS JURISDICTION**  
18 **OVER IT?**

19 A. No.

20 **Q. WHY NOT?**

21 A. Because the VNXX ISP-bound calls at issue do not begin and end in  
22 Washington. They begin in Washington – all the traffic at issue involves Qwest  
23 Washington end users dialing ISPs – but they do not end in Washington.

1 **Q. PLEASE DESCRIBE ONCE AGAIN THE DIALING PATTERN OF AN**  
2 **ISP-BOUND CALL.**

3 A. The end user trying to reach an ISP will dial a seven digit (or possibly a ten digit)  
4 local telephone number. In the case of a VNXX call, the end user is located in  
5 one local exchange and the modem used by the ISP is in a different exchange,  
6 but the number assigned to the modem is associated with the exchange of the  
7 calling party. The calling party (end user) in this case is a Qwest customer and  
8 the ISP that the end user is trying to reach is a Level 3 customer. Previous  
9 sections of my testimony have laid out the technical details associated with these  
10 calls.

11 **Q. WHAT IS THE ORIGINATION POINT OF AN ISP-BOUND CALL?**

12 A. The origination point of an ISP-bound call is the premises of the end user calling  
13 party.

14 **Q. WHAT IS THE TERMINATION POINT OF AN ISP-BOUND CALL?**

15 A. Actually, consistent with my explanation above, any given ISP-bound call will  
16 have many different termination points. Those points are the servers where the  
17 content that the end user accesses is stored and/or with which the end user  
18 interacts.

19 **Q. ISN'T THE END POINT OF THE CALL SIMPLY THE MODEM THAT**  
20 **"ANSWERS" THE CALL AS DIALED BY THE END USER?**

21 A. No. If the ISP-bound calling issue were as simple as that, we would not have  
22 been fighting about it for the last decade or more. Back when the FCC was first

1 looking at this issue in the late 1990s, CLECs, working with ISPs, had generally  
2 arranged things so that ISPs had banks of modems distributed around a LATA,  
3 specifically arranged so that all or most end users in the LATA could call a  
4 modem bank that was literally, physically located in the caller's local calling  
5 area. In light of these arrangements, the CLECs argued to the FCC that because  
6 the modems were within the callers' local calling areas, ISP-bound calls should  
7 simply be treated as local calls, subject to normal reciprocal compensation rules.  
8 If the FCC had agreed with that argument, we would not be where we are today.  
9 But in fact, the FCC rejected it, stating that "the communications at issue here do  
10 not terminate at the ISP's local server, as CLECs and ISPs contend, but continue  
11 to the ultimate destination or destinations, specifically at an Internet website that  
12 is often located in another state."<sup>11</sup> In the 2001 *ISP Remand Order*, the FCC  
13 confirmed this ruling, stating that the "proper focus for identifying a  
14 communication needs to be the user interacting with a desired webpage, friend,  
15 game, or chat room, not on the increasingly mystifying technical and mechanical  
16 activity in the middle that makes the communication possible. ISPs, in most  
17 cases, provide services that permit the dial-up Internet user to communicate  
18 directly with some distant site or party (other than the ISP) that the caller has  
19 specified."<sup>12</sup> The idea that a call to an ISP in any meaningful way "terminates"  
20 at the modem is entirely inconsistent with what the FCC has said about this issue  
21 for more than a decade.

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<sup>11</sup> *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Intercarrier Compensation for ISP-Bound Traffic*, Declaratory Ruling, 14 FCC Rcd 3689, ¶ 12 (1999).

<sup>12</sup> *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Intercarrier Compensation for ISP-Bound Traffic*, Order on Remand and Report and Order, 16 FCC Rcd 9151, ¶ 59 (2001).

1 It is also inconsistent with the facts. At best, the modem – in our situation here,  
2 the Level 3 modem bank located in Seattle – is merely an intermediate point. It  
3 provides the protocol conversion to enable the end user to traverse the Internet to  
4 access whatever content is of interest to the end user. The end user is not dialing  
5 the number associated with the modem to “speak” to the modem. The end user is  
6 interested in online content, and that content is stored in servers that host  
7 websites and other repositories of information that are located throughout the  
8 United States and, indeed, throughout the world. So, if there is one thing we  
9 know for sure, it is that ISP-bound calls do *not* end at the ISP’s modem. Instead,  
10 they continue on into the Internet.

11 **Q. DOES IT MAKE SENSE AS A TECHNICAL MATTER TO VIEW LEVEL**  
12 **3’S MODEM BANKS AS THE “TERMINATION POINT” FOR AN ISP-**  
13 **BOUND CALL?**

14 A. No. The only thing the modem does is convert the traffic from a TDM protocol  
15 to an IP protocol. It does not reflect any type of “end point” to the call, and it is  
16 not even the location of the ISP, given that the modem is actually Level 3’s.  
17 Making the modem the end point of the call would be akin to saying that the end  
18 point of a traditional phone call is where an electromagnetic analog signal is  
19 converted into a digital signal.

20 **Q. IN PRACTICAL TERMS, HOW DOES AN END USER COMMUNICATE**  
21 **WITH OUT-OF-STATE LOCATIONS DURING AN ISP-BOUND CALL?**

22 A. As described above, during a given dial-up call to an ISP, an end user may access  
23 multiple servers for multiple different reasons – the local newspaper for local

1 news (which may or may not be hosted locally), credit card balances, stores, etc.  
2 It is unlikely in the extreme that all or even any significant portion of the content  
3 that the user would access would be located in the same local calling area or,  
4 indeed, the same state. So, the fact that the modem that the end user accesses is  
5 located in the same state as the end user says nothing about the termination point  
6 of the call; that point or points in almost all circumstances would be located  
7 outside the end user's "home" state.

8 Note that this is true regardless of whether the call to the ISP is a "local" call or  
9 is a "VNXX" call, using the modems as a reference point. The particular  
10 landline local exchange area of the telephone company serving the end user  
11 calling party has absolutely nothing to do with the *destination* of the call – *i.e.*,  
12 the servers hosting the content that the calling party end user wishes to contact.

13 **Q. COULD YOU PROVIDE AN EXAMPLE?**

14 A. Sure. AOL, which I mentioned before, was one of Level 3's largest dial-up ISP  
15 customers. End users in Washington that had AOL as their dial-up ISP and, in  
16 this example, Qwest as their local telephone company, would dial a local number  
17 to reach the Level 3 modem (serving AOL) that was located in Seattle. AOL's  
18 main server, however, was in Reston, Virginia. The end user would reach the  
19 server in Reston and, from there, could reach other servers located throughout the  
20 world.

21 **Q. WHAT, THEN, IS THE SIGNIFICANCE OF THE LOCATION OF THE**  
22 **MODEM?**

1 A. In my view, the location of the modem has no significance in determining the  
2 end points of an ISP-bound call. That being said, I understand that the FCC's  
3 special intercarrier compensation regime for ISP-bound traffic applies where the  
4 calling party and the modem are physically located in the same local calling area.  
5 Now, Level 3 believed (and believes) that that regime *also* applies to VNXX  
6 ISP-bound traffic, but we understand that the courts have ruled against that  
7 position in this case. As I understand the posture of this case, there has been  
8 some suggestion that if the caller and the modem are in different calling areas but  
9 within the same state, then somehow the caller-to-modem link should be viewed  
10 as a separate intrastate call.

11 **Q. IS THERE ANY VALIDITY TO SUCH A VIEW?**

12 A. No. As noted above, the FCC has made clear that the location of the modem is  
13 entirely irrelevant to the actual termination point(s) of a call to an ISP, and  
14 entirely irrelevant to the jurisdictional classification of ISP-bound calls. Any  
15 ISP-bound calls that are outside the special compensation regime that the FCC  
16 set up are entirely interstate in nature. I understand that the question of  
17 jurisdiction is on some level a legal one. But as a purely practical, factual matter,  
18 it is simply not true to say that an ISP-bound call ends or terminates at the ISP's  
19 modem. The FCC was correct, as a factual and technical matter, in viewing the  
20 modem as an intermediate way-station rather than as an end point.

1 **VI. THE TIME PERIOD RELEVANT TO THIS CASE.**

2 **Q. WHAT IS THE RELEVANT PERIOD FOR CONSIDERING WHETHER**  
3 **ANY REFUNDS ARE DUE TO QWEST BY LEVEL 3?**

4 A. The question here is what, if anything, the Commission should do with respect to  
5 the amounts that Qwest paid Level 3 for VNXX calls during the period from  
6 when the Commission ruled that such calls were covered by the parties'  
7 interconnection agreement, until Qwest stopped paying. On that issue, I agree  
8 with Larry Brotherson of Qwest that the relevant period began in November  
9 2004, when Qwest began withholding payment to Level 3 of reciprocal  
10 compensation payments billed by Level 3 to Qwest and continued through Level  
11 3's April 2007 billing.

12 **Q. TO THE EXTENT THAT ACCESS CHARGES ARE STILL AT ISSUE IN**  
13 **THIS CASE, WHAT IS LEVEL 3'S POSITION AS TO THE RELEVANT**  
14 **PERIOD THAT SHOULD BE CONSIDERED?**

15 A. While Level 3 does not believe that any payment of access charges from Level 3  
16 to Qwest is even properly a part of this case, Level 3 would consider the relevant  
17 period to begin on October 8, 2004, which is the month after the FCC's *Core*  
18 decision lifted the growth caps and the new market restrictions of the *ISP*  
19 *Remand Order*. The relevant period ends on August 6, 2007, when a new ICA  
20 between Level 3 and Qwest was adopted by process of law by the Commission.

1 **VII. POTENTIAL REFUNDS FROM LEVEL 3 TO QWEST**

2 **Q. DURING THE RELEVANT PERIOD THAT YOU DESCRIBE ABOVE,**  
3 **HOW MUCH DID LEVEL 3 RECEIVE FROM QWEST IN**  
4 **RECIPROCAL COMPENSATION PAYMENTS ATTRIBUTABLE TO**  
5 **VNXX ISP-BOUND TRAFFIC?**

6 A. When the Commission issued its Order No. 5 in this case on February 10, 2006,  
7 Qwest decided to pay Level 3. According to Mr. Brotherson, Qwest paid Level  
8 3, including interest, a total of [Confidential] [REDACTED], [Confidential]  
9 representing amounts that Qwest had withheld since November 2004. In  
10 addition, from April 2006 through June 2007 (representing Level 3's April 2007  
11 billings to Qwest), Qwest paid Level 3 [Confidential] [REDACTED]  
12 [Confidential] in reciprocal compensation which Qwest attributed to VNXX  
13 traffic. Thus, in total, for the period November 2004 through June 2007, Qwest  
14 paid Level 3 [Confidential] [REDACTED]. [Confidential] Level 3 agrees that  
15 these are the amounts that Qwest paid Level 3. Level 3 also does not contest the  
16 amount of traffic that Mr. Brotherson attributed to VNXX traffic.

17 **Q. WHAT MINUTES OF USE WERE GENERATED BY LEVEL 3 FOR**  
18 **DIAL-UP ISP TRAFFIC IN THE STATE OF WASHINGTON DURING**  
19 **THE RELEVANT PERIOD?**

20 A. The MOU for which Level 3 has data is set forth in Confidential Exhibit MDG-  
21 6C.

1 **Q. IS QWEST ENTITLED TO A REFUND OF THE AMOUNTS THAT IT**  
2 **PAID LEVEL 3 AT THIS TIME?**

3 A. Level 3 does not believe refunds are appropriate at this time. Even if we take as  
4 a given that the rate of reciprocal compensation specified in the FCC's *ISP*  
5 *Remand Order* of \$0.0007 applies only to "local" dial-up ISP-bound traffic, *i.e.*,  
6 traffic in which the end user calling party and the modem serving the ISP are  
7 physically located in the same local calling area, that still leaves an open issue  
8 that must be resolved before the total liability of one party to the other (and the  
9 direction of that liability) can be determined. That issue is the rate of  
10 compensation, if any, on VNXX ISP-bound traffic. That issue has not been  
11 determined and there are multiple, potential different answers to that question.  
12 Indeed, there are even different views as to which regulatory body has the  
13 authority to answer it.

14 For example, in the *Generic Proceeding*, the Commission found that a bill-and-  
15 keep compensation mechanism would be appropriate for VNXX traffic, subject  
16 to Qwest being compensated for transport at TELRIC rates. That outcome would  
17 suggest one answer.

18 A different outcome, however, is, in my view, more likely. As I discussed  
19 earlier, ISP-bound traffic, regardless how it originates -- "VNXX" or "local" -- is  
20 interstate in nature. This is because servers that end users want to reach, and do  
21 reach during essentially every dial-up ISP online session, are located all over the  
22 world. As noted above, this means that all ISP-bound traffic is jurisdictionally  
23 interstate, under the authority of the FCC. So, if the *ISP Remand Order* rate of

1 \$0.007 does not apply to VNXX traffic, the FCC would then need to establish the  
2 rate that it wants to apply to “non-local” (VNXX) traffic. I will let the lawyers  
3 argue this issue, but my point is that, until the FCC sets a rate for “non-local”  
4 ISP-bound traffic, it simply cannot be determined which party would be the net  
5 payer and how much would be owed to the net payee. Until those questions are  
6 resolved, it would be inappropriate to order any type of payment from one party  
7 to another.

8 **Q. ASSUMING THAT SOME REFUND IS DUE FROM LEVEL 3 TO**  
9 **QWEST, IS MR. BROTHERSON’S CALCULATION OF THAT REFUND**  
10 **CORRECT?**

11 A. No, it is not. Mr. Brotherson acknowledges that the ICA does not specify a rate  
12 of interest on late payments and in this Mr. Brotherson is correct. Section 5.4.8  
13 of the ICA, indeed, provides that: “The late payment charge for amounts billed  
14 under this Agreement shall be in accordance with Commission requirements.”  
15 As far as we can tell, there are no “Commission requirements” governing the  
16 calculation of interest in this specific circumstance. The closest that we could  
17 find is that the Commission does set the rate annually for interest on customer  
18 deposits. That rate is currently 0.11% and, over the past several years has been:

<b>INTEREST ON CUSTOMER DEPOSITS</b>	
<b>YEAR</b>	<b>INTEREST RATE</b>
2006	4.38%
2007	5.04%
2008	3.49%
2009	1.08%
2010	0.31%
2011	0.29%
2012	0.11%

1 The source documents that form the basis for this table are annexed as Exhibit  
2 MDG-7. Based upon the amounts that Qwest paid Level 3 and the interest rates  
3 set forth above, through July 31, 2012, Level 3 would owe Qwest [Confidential]  
4 [REDACTED] [Confidential] in interest and [Confidential] [REDACTED]  
5 [Confidential] in total. The calculations are set forth in Confidential Exhibit  
6 MDG-8C. Please remember, however, that we believe that no refunds are  
7 appropriate at this time.

## 8 VIII. SUMMARY OF TESTIMONY

### 9 Q. WOULD YOU PLEASE SUMMARIZE YOUR TESTIMONY?

10 A. In serving the citizens of Washington on behalf of Level 3's ISP customers,  
11 Level 3 interconnected with Qwest. Qwest used its circuit based TDM network  
12 to deliver its customers' traffic to Level 3, and Level 3 employed its IP-based  
13 network to deliver the traffic to its ISP customers and on to the Internet. Level  
14 3's ISP customers were located outside of the state of Washington, and received  
15 traffic at servers located outside the state of Washington. The nature of the  
16 connections and call routing arrangements between Qwest and Level 3 shows  
17 that VNXX calling does not constitute any form of "switched access" service that  
18 Qwest has ever identified in its tariffs. Moreover, the nature of the Internet itself  
19 is such that the traffic both coming from and then going back to Washington-  
20 based dial-up Internet users was going to and coming from locations throughout  
21 the world. For this reason, the traffic at issue has to be considered to be interstate  
22 both for jurisdictional and rating purposes. Since the FCC has declared

1 jurisdiction over such traffic, if the ISP Remand Order does not cover all of the  
2 traffic, then the determination of how to rate any other “non-local” ISP traffic  
3 can only be made by the FCC. As a result, it would be inappropriate to order any  
4 refunds at this time.

5 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

6 A. Yes.