EXHIBIT_PL-1T

BEORE THE WASHINGTON STATE
UTILTIES AND TRANSPORTATION COMMISSION

In The Matter Of **Level 3 Communications, LLC'S Petition for Arbitration Pursuant to Section 252(B) of the Communications Act of 1934, as Amended by The Telecommunications Act Of 1996, and the Applicable State Laws for Rates, Terms, and Conditions of Interconnection with Qwest Corporation**	DOCKET NO. UT-063006

DIRECT TESTIMONY

OF PHILIP LINSE

QWEST CORPORATION

ISSUES 1, 2, 8, AND 20

MAY 30, 2006

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I. IDENTIFICATION OF WITNESS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH QWEST CORPORATION.

A. My name is Philip Linse. My business address is 700 West Mineral Avenue, Littleton Colorado. I am employed as Director – Technical Regulatory in the Network Policy Organization. I am testifying on behalf of Qwest Corporation ("Qwest").

Q. PLEASE GIVE A BRIEF BACKGROUND OF YOUR EDUCATIONAL AND TELEPHONE COMPANY EXPERIENCE.

A. I received a Bachelors degree from the University of Northern Iowa in 1994. I began my career in the telephone communications industry in 1995 when I joined the engineering department of CDI Telecommunications in Missoula, Montana. In 1998, I accepted a position with Pacific Bell as a Technology Planner with responsibility for analyzing network capacity. In 2000, I accepted a position with U S WEST as a Manager, Tactical Planning. In 2001, I was promoted to a staff position in Technical Regulatory Interconnection Planning for Qwest. In this position, I developed network strategies for interconnection of unbundled Switching, Signaling System 7 ("SS7") and other switching-related products. My responsibilities also included the development of network strategies based on the evaluation of new technologies. I was one of the network organization's subject

matter experts. In 2003, I was promoted to my current position as Director of Technical Regulatory in the Network organization. Since my promotion in 2003, the Technical Regulatory group has been realigned and is now part of the Policy organization. In addition to my oversight responsibilities of Qwest's network regulatory interconnection and switching requirements for sections 251 and 252 of the Telecommunications Act of 1996, I also develop and direct the implementation of network policies. In addition to these internal functions, I also represent Qwest in industry technical standards setting groups such as the FCC's Network Reliability and Interoperability Council ("NRIC") and the Network Interconnection Interoperability Forum ("NIIF").

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to detail Qwest's positions, from a technical perspective, as they relate to certain disputed issues between the parties. My testimony will show that the Qwest position on these issues is reasonable, appropriate and more than adequately provides for the interconnection needs of Level 3. Specifically, my testimony will address the following issues from the Matrix of Unresolved Issues filed by Level 3 in this arbitration:

- Issue 1: Costs of Interconnection
- Issue 2: Combining Traffic on Interconnection Trunks

- Issue 8: Definition of Call Record
- Issue 20: Signaling Parameters

In portions of my testimony that follow, where the disputed language is similar but contain modifications to Qwest's language, I have underlined the language that Level 3 wishes to add and have stricken through language that Level 3 wishes to delete.

III. DISPUTED ISSUE NO. 1: COSTS OF INTERCONNECTION

Issue No. 1A

Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 1A.

A. Issue 1A involves disputed language regarding points of interconnection. Level 3 mischaracterizes the issue as having to do with its right to interconnect at a single point in the LATA and Qwest's obligation on its side of the Point of Interconnection ("POI"). However, Qwest believes that the POI is not the real issue here. The real issue is whether Qwest should be required to provide interconnection at points where it is not technically feasible or to provision/build transport facilities to Level 3 without compensation for the provisioning/building of such transport facilities. Whereas my testimony addresses Issue 1A from a technical perspective, the testimony of Bill Easton will more fully address compensation issues and why Level 3 is required to compensate Qwest for interconnection facilities provided by Qwest.

Q. WHAT LANGUAGE DOES QWEST PROPOSE?

A. Qwest proposes the following language, which is found in the interconnection agreement ("ICA") filed by Qwest with its Response to Level 3's Petition:

> 7.1.1 This Section describes the Interconnection of Qwest's network and CLEC's network for the purpose of exchanging Exchange Service (EAS/Local traffic), IntraLATA Toll carried solely by local exchange carriers and not by an IXC (IntraLATA LEC Toll), ISP-Bound traffic, and Jointly Provided Switched Access (InterLATA and IntraLATA) traffic. Qwest will provide Interconnection at any Technically Feasible point within its network. Interconnection, which Qwest currently names "Local Interconnection Service" (LIS), is provided for the purpose of connecting End Office Switches to End Office Switches or End Office Switches to local or Access Tandem Switches for the exchange of Exchange Service (EAS/Local traffic); or End Office Switches to Access Tandem Switches for the exchange of IntraLATA LEC Toll or Jointly Provided Switched Access traffic. Qwest Tandem Switch to CLEC Tandem Switch connections will be provided where Technically Feasible. New or continued Qwest local Tandem Switch to Qwest Access Tandem Switch and Qwest Access Tandem Switch to Qwest Access Tandem Switch connections are not required where Qwest can demonstrate that such connections present a risk of Switch exhaust and that Qwest does not make similar use of its network to transport the local calls of its own or any Affiliate's End User Customers.
>
> 7.1.1.1 CLEC agrees to allow Qwest to conduct operational verification audits of those network elements controlled by CLEC and to work cooperatively with Qwest to conduct an operational verification audit of any other provider that CLEC used to originate, route and transport VoIP traffic that is delivered to Qwest, as well as to make available any supporting documentation and records in order to ensure CLEC's compliance with the obligations set forth in the VoIP definition and elsewhere in this Agreement. Qwest shall have the right to

redefine this traffic as Switched Access in the event of an "operational verification audit failure". An "operational verification audit failure" is defined as: (a) Qwest's inability to conduct a post-provisioning operational verification audit due to insufficient cooperation by CLEC or CLEC's other providers, or (b) a determination by Qwest in a post-provisioning operational verification audit that the CLEC or CLEC's end users are not originating in a manner consistent with the obligations set forth in the VoIP definition and elsewhere in this Agreement.

7.1.1.2 Prior to using Local Interconnection Service trunks to terminate VoIP traffic, CLEC certifies that the (a) types of equipment VoIP end users will use are consistent with the origination of VoIP as defined in this Agreement; and (b) types of configurations that VoIP end users will use to originate calls using IP technology are consistent with the VoIP configuration as defined in this Agreement.

Q. WHAT LANGUAGE DOES LEVEL 3 PROPOSE?

A. Level 3 proposes the following:

7.1.1 This Section describes the Interconnection of Qwest's network and CLEC's network for the purpose of exchanging Telecommunications Including Telephone Exchange Service And Exchange Access traffic. Qwest will provide Interconnection at any Technically Feasible point within its network.

7.1.1.1 **Establishment of SPOI**: Qwest agrees to provide CLEC a Single Point of Interconnection (SPOI) in each Local Access Transport Area (LATA) for the exchange of all telecommunications traffic. The SPOI may be established at any mutually agreeable location within the LATA, or, at Level 3's sole option, at any technically feasible point on Qwest's network. Technically feasible points include but are not limited to Qwest's end offices, access tandem, and local tandem offices.

7.1.1.2 **Cost Responsibility.** Each Party is responsible for constructing, maintaining, and operating all facilities on its side of the SPOI, subject only to the payment of intercarrier compensation in accordance with Applicable Law. In accordance with FCC Rule 51.703(b), neither Party may assess any charges on the other Party for the origination of any telecommunications delivered to the other Party at the SPOI, except for Telephone Toll Service traffic outbound from one Party to the other when the other Party is acting in the capacity of a provider of Telephone Toll Service, to which originating access charges properly apply.

7.1.1.3 **Facilities included/transmission rates.** Each SPOI to be established under the terms of this Attachment shall be deemed to include any and all facilities necessary for the exchange of traffic between Qwest's and Level 3's respective networks within a LATA. Each Party may use an Entrance Facility (EF), Expanded Interconnect Channel Termination (EICT), or Mid Span Meet Point of Interconnection (POI) and/or Direct Trunked Transport (DTT) at DS1, DS3 , OC3 or higher transmission rates as, in that Party's reasonable judgment, is appropriate in light of the actual and anticipated volume of traffic to be exchanged. If one Party seeks to establish a higher transmission rate facility than the other Party would establish, the other Party shall nonetheless reasonably accommodate the Party's decision to use higher transmission rate facilities.

7.1.1.4 Each Party Shall Charge Reciprocal Compensation for the Termination of Traffic to be carried. All telecommunications of all types shall be exchanged between the Parties by means of from the physical facilities established at Single Point of Interconnection Per LATA onto its Network Consistent With Section 51.703 of the FCC's Rules:

7.1.1.4.1 Level 3 may interconnect with Qwest at any technically feasible point on Qwest's network for the exchange of telecommunications traffic. Such technically feasible points include but are not limited to Qwest access tandems or Qwest local tandems. When CLEC is interconnected at the SPOI. separate trunk

> groups for separate types of traffic may be established in accordance with the terms hereof. No separate physical interconnection facilities, as opposed to separate trunk groups within SPOI facilities, shall be established except upon express mutual agreement of the Parties.

Q. WHY DOES QWEST OBJECT TO LEVEL 3'S PROPOSED LANGUAGE?

A. Level 3's contract language incorrectly defines its POI as a point that is physically located on Qwest's network. In addition Level 3's proposed language is inconsistent and attempts to extend Qwest's interconnection responsibility until it stretches from any point on the Qwest network to points that are not even within Qwest's serving territory. Level 3's proposed language would impose a requirement on Qwest to accept traffic where there are technical limitations and requires higher transmission rates than may be necessary or justified. Qwest also disputes the portions of Level 3's proposed language in Issue No. 1A as they apply or support other issues in dispute. The testimony of Larry Brotherson addresses the portions of Issue No.1A that concern Voice over Internet Protocol ("VoIP").

Q. DOES QWEST'S LANGUAGE PROHIBIT SINGLE POINT OF INTERCONNECTION?

A. No. Qwest's proposed language does not prohibit Single Point of Interconnection ("SPOI"); in fact it allows for SPOI under conditions that have been found

acceptable by other similarly situated carriers and commissions throughout Qwest's 14 state territory, including Washington. As I will explain later in my testimony when addressing issue 1B, Level 3 has multiple methods available to it to establish interconnection under Qwest's proposed language.

Q. IS LEVEL 3 CORRECT TO SUGGEST THAT IT MAY ESTABLISH ITS POI ON QWEST'S NETWORK?

A. No. While a POI may be located within a Qwest central office, interconnection is accomplished by means of cross-connections between components of Qwest's network and components of the interconnecting CLEC's network. These cross-connections are the physical demarcation point between the networks and facilitate the exchange of traffic between two separate networks. Level 3's language incorrectly and inappropriately suggests that it has the right to establish a POI that is directly connected to Qwest's equipment. What Level 3 is requesting, in actuality, is integration into Qwest's network, and not interconnection with Qwest's network. It is Qwest's position that interconnection is appropriately obtained by establishing a demarcation point (or POI) between Qwest's network and Level 3's network.

Q. WHAT IS A DEMARCATION POINT?

A. A demarcation point is a point where the facilities of two networks meet. This allows each network operator to maintain and control the performance of its respective network without potential adverse impacts that may be created by the other network operator. Such demarcation points can include such locations as a main distribution frame.[1]

Q. ARE THERE OPTIONS AVAILABLE TO LEVEL 3 FOR ESTABLISHING A DEMARCATION POINT/POI?

A. Yes. For Level 3 to establish interconnection with Qwest, Level 3 must create its POI for demarcation at a point in each LATA within Qwest's serving territory. Level 3 would then choose a method of interconnection that best fits its needs. The methods for establishing interconnection are explained in my testimony for Issue 1B.

Q. HOW IS LEVEL 3'S PROPOSED LANGUAGE INCONSISTENT?

A. Level 3's language is inconsistent because it describes interconnection "within" Qwest's network in section 7.1.1 and then "on" Qwest's network in section 7.1.1.4 and 7.1.1.4.1. While Qwest agrees that the word "within" represents

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[1] FCC 96-325, *First Report and Order*, ¶ 210, Aug. 8th 1996.

interconnection within Qwest's serving territory, the use of "on" in Level 3's proposed language increases the potential for future disputes.

Q. HOW MIGHT LEVEL 3'S PROPOSED LANGUAGE OBLIGATE QWEST TO EXCHANGE TRAFFIC WHERE IT IS NOT TECHNICALLY FEASIBLE?

A. Level 3's proposed language obligates Qwest to accept telecommunications traffic of all types through Level 3's SPOI at any technically feasible point. All types of telecommunications traffic includes toll traffic. Level 3 then defines the technically feasible points to include Qwest's access tandems and local tandems. Qwest's network currently consists of a combination of access tandems for the routing of toll traffic, and local tandems for the routing of local traffic. Qwest's local tandem architecture, however, does not have the capability of routing toll traffic. Qwest's local tandems do not have the connections to end offices and to other carriers that would allow for the appropriate routing of traffic that is not local to the end offices that subtend each local tandem. To achieve that capability would require a substantial modification of Qwest's current network, which is not an obligation under the Act. Level 3 proposes language which would permit it to insist on interconnecting at points where it is not technically feasible.

Q. IS IT APPROPRIATE TO REQUIRE HIGHER TRANSMISSION RATES WHEN TRAFFIC VOLUME DOES NOT JUSTIFY IT?

A. No. Level 3's language proposes that each party provide higher transmission rates upon the request of the other party. This would force the placement or the augmentation of facilities to Qwest's existing network. Again, this is a redefinition of Qwest's obligation and a modification of its existing architectures and network capabilities. The argument for adequate facilities to deliver higher transmission rates as proposed by Level 3 would promote inefficient use of the network. It is inappropriate and unreasonable to expect the upgrading of facilities or the adding of unnecessary capacity to the network when the network demand for such capacity does not exist.

Q. WHAT PORTIONS OF ISSUE NO. 1A ARE ADDRESSED ELSEWHERE IN THIS ARBITRATION?

A. Level 3's language at 7.1.1.1, 7.1.1.2 and 7.1.1.4.1 suggests that Level 3 be allowed to route switched access traffic over local interconnection trunks. This language implicates Issue No. 2 and is discussed there.

Issue No. 1B

Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 1B.

A. Issue 1B involves disputed language concerning establishment of a point of interconnection.

Q. WHAT LANGUAGE DOES QWEST PROPOSE?

A. Qwest proposes the following which is found in the interconnection agreement ("ICA") filed by Qwest with its Response to Level 3's Petition:

> 7.1.2 Methods of Interconnection
>
> The Parties will negotiate the facilities arrangement used to interconnect their respective networks. CLEC shall establish at least one (1) physical Point of Interconnection in Qwest territory in each LATA CLEC has local End User Customers. The Parties shall establish, through negotiations, at least one (1) of the following Interconnection arrangements, at any Technically Feasible point: (1) a DS1 or DS3 Qwest-provided facility; (2) Collocation; (3) negotiated Mid-Span Meet POI facilities; or (4) other Technically Feasible methods of Interconnection via the Bona Fide Request (BFR) process unless a particular arrangement has been previously provided to a third party, or is offered by Qwest as a product..

Q. WHAT LANGUAGE DOES LEVEL 3 PROPOSE?

A. Level 3 proposes the following:

> 7.1.2 Methods of Interconnection

CLEC may establish a POI through: (1) a collocation site established by CLEC at a Qwest wire center, (2) a collocation site established by a third party at Qwest wire center, or (3) transport (and entrance facilities where applicable).

> CLEC shall establish one POI at any technically feasible point on Qwest's network within each LATA in which CLEC desires to exchange traffic directly with Qwest by any of the following methods:
>
> 1. a collocation site established by CLEC at a Qwest Wire Center,
>
> 2. a collocation site established by a third party at Qwest Wire Center, or;

3. transport (and entrance facilities where applicable) ordered and purchased by CLEC from Qwest; or,

4. Fiber meet point.

CLEC shall establish one POI on Qwest's network in each LATA. POIs may be established by CLEC through:

1. a collocation site established by CLEC at a Qwest Wire Center,

2. a collocation site established by a third party at Qwest Wire Center,

3. transport (and entrance facilities where applicable) ordered and purchased by CLEC from Qwest at the applicable Qwest intrastate access rates and charges; or,

4. Fiber meet point.

Q. WHAT FACILITY ARRANGEMENTS DOES QWEST PROVIDE FOR INTERCONNECTION WITH LEVEL 3?

A. There are four facility arrangements or methods of establishing interconnection with Qwest: (1) DS1 or DS3 Qwest provided entrance facility; (2) Collocation; (3) negotiated Mid-Span Meet POI facilities; and (4) other Technically Feasible methods of Interconnection. Level 3 may use any or all of these options to establish interconnection with Qwest.

The "DS1 or DS3 Qwest provided facility" is an option for establishing interconnection where Qwest provisions/builds a transport facility to the Level 3 POI either at the DS1 level of transmission or at a DS3 level of transmission. DS1s and DS3s are merely different bandwidths or capacities of transport

facilities that Qwest provisions/builds to Level 3's POI that are located within the same Qwest wire center. The Qwest provided facility described here is also known as an entrance facility.

Collocation is an option by which Level 3 may extend its facilities into a Qwest central office and terminate them to collocate within that central office to establish a POI. Qwest would then provision/build interconnection facilities to the Level 3 Collocation. This Collocation may also be a third party Collocation.

"Negotiated Mid-Span Meet POI facilities" is an option where Level 3 extends its own facilities to a negotiated point approximately half way between the Level 3 SPOI and Qwest's wire center building. With this arrangement, Level 3 builds its portion of the transport facilities while Qwest builds its portion of its transport facilities to an agreeable location for interconnection at the midpoint between Level 3's POI and Qwest's network. This allows Level 3 and Qwest to equally share in the cost of building the transport required for Level 3 to interconnect with Qwest.

"Other Technically Feasible methods of Interconnection" is an option when there is an alternate method of interconnection. This is done through a Bona Fide Request ("BFR"). The BFR enables Qwest to validate the technical feasibility of

the alternate method to facilitate interconnection. Interconnection is not the only use of the BFR. A BFR can be used for other requests such as those associated with access to Unbundled Network Elements that may not be available.

Q. PLEASE SUMMARIZE WHAT THESE OPTIONS PROVIDE?

A. These options provide Level 3 the flexibility to have Qwest build facilities to Level 3, or have Level 3 build to Qwest's wire center (Collocation), or meet somewhere in the middle. Qwest also provides the flexibility to use an alternate technical feasible method not covered by the previous three options.

Q. ARE THERE ANY OTHER FACILITIES THAT MAY BE REQUIRED FOR INTERCONNECTION?

A. On occasion, yes. For example, if Level 3 has established its POI in a particular Qwest wire center and then wishes to interconnect with switches located in other Qwest wire centers, then Direct Trunked Transport could be supplied by Qwest to connect Level 3's POI to these other Qwest switches.

Q. WHAT IS LIS?

A. LIS is a bundled trunk-side service that provides switching and transport for the mutual exchange of traffic that originates and terminates within a Qwest Local Calling Area (LCA) or an Extended Area Service (EAS) exchange. LIS provides

the logical connections that are necessary for the exchange of traffic and are established over the physical facility arrangement that is chosen by Level 3 to connect Level 3's POI with Qwest's network.

Q. HOW IS LIS PROVISIONED TO INTERCONNECT LEVEL 3 AND QWEST?

A. LIS is provisioned by using transport facilities and logical trunk connections that are programmed into Qwest's switches. Switches are also equipped with interfaces so that they may be connected to one another with transport facilities. The facility options my testimony describes above are the transport options Level 3 may use to connect its switches with Qwest's switches. Logical trunk connections then must be created to allow calls to be routed onto and off of these transport facilities. This allows for telecommunications traffic to flow between the switches. Both Qwest and Level 3 must coordinate the creation of these trunks during the provisioning of LIS. Each trunk that is created between switches allows a voice conversation to take place between the switches. Each switch must have a trunk connection for a call to route to the other switch. Based on the coordinated provisioning of LIS, each switch is programmed to know which trunk to route the call across by using the subscriber's dialed digits as directions. The switch would then route the call to the predetermined trunk that connects the two switches for completion of the call.

Q. WHAT TRUNKING OPTIONS ARE THERE FOR LIS?

A. There are essentially four local trunking options available to Level 3: (1) LIS to Qwest's End Office; (2) LIS to Qwest's local tandem; (3) LIS to Qwest's access tandem; and (4) Single Point of Presence ("SPOP").

LIS to Qwest's End Office allows for Level 3 to send and receive its end users' local traffic to and from each end office that Level 3 has established LIS.

LIS to Qwest's local tandem allows for Level 3 to send and receive its end users' local traffic to and from a local tandem for delivery of its traffic to and from all end offices that subtend that local tandem. This traffic may also consist of transit traffic that Level 3 originates to a third local carrier.

LIS to Qwest's access tandem allows for Level 3 to send and receive its end users' traffic to and from IXCs that are connected to that access tandem. This traffic may also consist of IntraLATA transit traffic that Level 3 originates to a third local carrier. In addition, Level 3 may send intraLATA toll that its end users originate.

SPOP allows for Level 3 to send and receive its end users' local traffic to and from all end offices that subtend Qwest's access tandem. SPOP also allows for Level 3 to send and receive its end users' traffic to and from IXCs that are connected to that access tandem. In addition, Level 3 may send intraLATA toll that its end users originate. This traffic may also include both IntraLATA and local transit traffic that Level 3 originates to a third local carrier.

Q. WHAT ARE THE BENEFITS OF SPOP?

A. Where volumes of local traffic are low, Level 3 only has to establish trunks to the access tandem. This avoids trunking between Level 3's POI and each Qwest end office and local tandem.

Q. ARE THERE LIMITATIONS TO SPOP?

A. Yes. Not all local carriers, Interexchange Carriers ("IXCs") or Qwest end offices have or will have trunking with each Qwest access tandem. Therefore, separate trunking to each access tandem may be required to the extent there is more than one access tandem in a LATA. In addition, and as I explain in issue 1F, it may be necessary for Level 3 to establish trunking, where traffic volumes justify, directly to local tandem switches or end office switches. Although additional trunking may be required within a LATA, it will not require Level 3 to maintain more than a single POI per LATA.

Q. WHY SHOULD QWEST'S LANGUAGE BE ADOPTED?

A. Qwest language more appropriately reflects the methods of interconnection between Qwest's network and CLEC networks like Level 3's network. Unlike Level 3's language, Qwest's language does not confuse what is required to create a POI with what is realistically required to interconnect two networks.

Issue No. 1F

Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 2F.

A. Issue No. 1F involves a dispute concerning Level 3 proposed modifications to Qwest proposed language. Level 3 has removed Qwest's proposed language describing how Level 3 may interconnect at Qwest's local and access tandem switches. Level 3 also removes the requirement for Level 3 to establish trunking as requested by Qwest where traffic volumes justify alternate trunking. My testimony will explain why this language is important from a technical perspective. In addition, Level 3 again inappropriately inserts the disclaimer that it should not have to pay for the use of the Qwest network. The testimony of Mr. Easton explains that Level 3's language not only ignores Level 3's obligations under the law, but is also clearly misplaced in a section describing the technical aspects of interconnection.

Q. WHAT LANGUAGE IS QWEST PROPOSING?

A. Qwest proposes the following which is found in the interconnection agreement ("ICA") filed by Qwest with its Response to Level 3's Petition:

> 7.2.2.9.6 The Parties shall terminate Exchange Service (EAS/Local) traffic on Tandem Switches or End Office Switches. CLEC may interconnect at either the Qwest local tandem or the Qwest access tandem for the delivery of local exchange traffic. When CLEC is interconnected at the access tandem and when there is a DS1 level of traffic (512 BHCCS) over three (3) consecutive months between CLEC's Switch and a Qwest End Office Switch, Qwest may request CLEC to order a direct trunk group to the Qwest End Office Switch. CLEC shall comply with that request unless it can demonstrate that such compliance will impose upon it a material adverse economic or operations impact. Furthermore, Qwest may propose to provide Interconnection facilities to the local Tandem Switches or End Office Switches served by the Access Tandem Switch at the same cost to CLEC as Interconnection at the Access Tandem Switch. If CLEC provides a written statement of its objections to a Qwest cost-equivalency proposal, Qwest may require it only: (a) upon demonstrating that a failure to do so will have a material adverse affect on the operation of its network and (b) upon a finding that doing so will have no material adverse impact on the operation of CLEC, as compared with Interconnection at such Access Tandem Switch.

Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?

A. Level 3 proposes the following:

> 7.2.2.9.6 When CLEC is interconnected at the access tandem and when there is a DS1 level of traffic (512 BHCCS) over three (3) consecutive months between CLEC's Switch and a Qwest End Office Switch, Qwest may request CLEC to order a direct trunk group to the Qwest End Office Switch. Notwithstanding references to Qwest's ability to requests that CLECs order direct trunk groups to the Qwest end office, nothing in this agreement shall e shall be construed to require CLEC to pay Qwest for any services or facilities on Qwest's side of the POI in connection with the origination of traffic from Qwest to CLEC; and nothing herein shall be construed to require CLEC to pay for any services or facilities on Qwest's side of the POI in connection with

the termination of traffic from CLEC by Qwest, other than reciprocal compensation payments as provided in this Agreement.

Q. WHY IS QWEST OPPOSED TO THE LEVEL 3 LANGUAGE?

A. Level 3 has removed the language that specifies tandems and end offices as points where traffic terminates. Level 3's proposed language ignores Qwest's existing network architecture, creating ambiguity and non-specificity that may lead to later disputes. More disturbingly, Level 3 removes the requirement to establish trunking to subtending network switches when increases in traffic volumes justify the alternate trunking. This is critical in maintaining a robust and reliable network for not only all interconnecting carriers (including Level 3), but also for Qwest customers as well. This insures that network capacity may be managed and maintained efficiently.

Q. LEVEL 3 HAS REMOVED THE REFERENCES TO TANDEMS AND END OFFICES WHERE TRUNKING IS ESTABLISHED FOR THE EXCHANGE OF TRAFFIC WITH QWEST. ARE THERE ANY OTHER EXISTING LOCATIONS WHERE LEVEL 3 MAY ESTABLISH TRUNKING TO EXCHANGE TRAFFIC?

A. No. By removing the language that allows for the exchange of Local/EAS traffic to Qwest tandems, Level 3 implies that there are other locations that Level 3 may

establish trunking for the exchange of traffic with Qwest's network. Currently, there are no other locations for Level 3 to exchange Local/EAS traffic directly with Qwest other than through the trunking with Qwest's tandems and end offices.

Q. ARE THERE OTHER TERMINATION POINTS IN THE PUBLIC SWITCHED TELEPHONE NETWORK ("PSTN") THAT OPERATE DIFFERENTLY THAN AN END OFFICE OR A TANDEM?

A. No. Switches perform essentially two functions in the telecommunications network. They either operate with a tandem function or an end office function.

Q. WHAT IS THE DIFFERENCE BETWEEN AN END OFFICE AND A TANDEM?

A. An end office serves end user customers. It is typically the last point of switching before traffic reaches the end user customers. It is also the point from which an end user customer draws dial tone and which performs the initial processing of a call from an end user served by that end office. A tandem switch on the other hand serves other switches. In other words tandem switches route traffic to other switches. This network architecture is not unique to Qwest, and Level 3's refusal to acknowledge its existence is illogical, considering that it wants to interconnect with such a network.

Q. WHY IS IT IMPORTANT TO IDENTIFY THE FUNCTION OF THE SWITCHES WHERE LOCAL TRAFFIC SHOULD TERMINATE?

A. It is important to identify the function of switches so that there is no confusion as to the network switching functions to which the Interconnection Agreement ("ICA") applies. Without this language, Level 3 may seek interconnection using a function that the Qwest network is not capable of providing. It is important that the agreement identify the type of traffic and the function of the switches where that traffic will be accepted so that this is clear to both parties. Qwest's language provides this clarity. Level 3's language does not.

Q. WHY DOES QWEST OPPOSE THE REMOVAL OF LANGUAGE THAT REQUIRES LEVEL 3 TO ESTABLISH TRUNKING TO SUBTENDING NETWORK SWITCHES WHEN VOLUMES JUSTIFY ALTERNATE TRUNKING?

A. Level 3's proposed language removes any responsibility for Level 3 to establish alternate trunking to maintain efficient use of network resources that are shared by all interconnecting carriers. By removing language that requires efficient use of the network Level 3 has the potential to negatively impact Qwest's switching resources, their reliability and their availability to all other interconnecting carriers. Level 3 attempts to avoid its responsibility to allow Qwest to maintain network robustness and efficiency. Other carriers interconnected with Qwest rely

on and benefit from the responsibility taken by each carrier to efficiently connect to and use Qwest's network. Thus these carriers too have previously acknowledged and assumed this responsibility by entering into interconnection contracts with Qwest that contain this language.

Q. DOES THE REQUIREMENT TO ESTABLISH ALTERNATE TRUNKING CREATE A FINANCIAL BURDEN ON LEVEL 3?

A. No. Direct trunking will typically save Level 3 money because with it Level 3 would avoid tandem switching charges. However, if the result of establishing alternate trunking is an economic burden, then Qwest's language provides a mechanism for Level 3 to avoid that burden. Under Qwest's proposed language, if Level 3 demonstrates that an economic burden exists, the requirement to establish alternate trunking is waived.

Q. DOES QWEST PROVIDE ANY ASSISTANCE IN IDENTIFYING TRUNKING THAT HAS BECOME INEFFICIENT?

A. Yes, Qwest monitors the volumes of traffic exchanged with Qwest that are destined to and from Qwest end offices. Qwest then generates reports that identify inefficient trunking. These reports are then shared with Level 3 along with a request to establish direct trunking and instructions as to which end office(s) direct trunking should be established.

Q. HAS LEVEL 3 BEEN COOPERATIVE WHEN WORKING WITH QWEST ON TRUNKING ISSUES?

A. Yes. Level 3 has historically been very cooperative when working with Qwest's trunk administration group. Level 3's proposed language which refuses to maintain network efficiencies is surprising given the cooperative history that has in the past existed between Qwest and Level 3. If Level 3 has no plans of changing its cooperative relationship with Qwest in maintaining a network used by all carriers then it is unclear why Level 3 has removed this requirement.

Q. WHAT IS THE 512 BHCCS RULE?

A. The 512 BHCCS rule establishes the threshold of usage which when reached means that direct trunking between end offices is typically more efficient than trunking that usage through a tandem switch.

Q. HOW DOES THE 512 BHCCS RULE WORK?

A. 512 BHCCS or 512 Busy Hour Centum Call Seconds is the measure of usage capacity of a DS1 trunk during the busiest hour of the day. Usage is measured in Centum Call Seconds ("CCS") or one hundred call seconds. A line or trunk that is in use for one hour, or sixty minutes, is being used for 3600 seconds, or 36 hundred call seconds, or 36 CCS. As stated in Newton's Telecom Dictionary CCS is: "One hundred call seconds or one hundred seconds of telephone

conversation. One hour of telephone traffic is equal to 36 ccs (60*60=3600/100=36) which is equal to one erlang." Newton's Telecom Dictionary, Volume 17 at 131 (February 2001). 512 BHCCs is essentially equivalent to a DS1 worth of usage. Telecommunications switch ports typically are provisioned in increments of DS1 capacity. Thus, it is generally recognized by the industry as the traffic threshold that indicates a sufficiently high volume of traffic that would warrant the provisioning of alternative, direct trunking arrangements.

Q. HOW DOES QWEST LANGUAGE CREATE EFFICIENT USE OF THE NETWORK?

A. Qwest's language establishes a threshold that facilitates efficient interconnection between Qwest and all CLEC switches. The threshold allows Qwest to manage traffic through tandem switches when traffic volumes justify a direct connection with a specific end office. As can be seen in Qwest Exhibit Nos. PL-2 and PL-3, as CLEC traffic that is destined for Qwest's end office A (PL-2) reaches or exceeds 512 BHCCS, or a DS1's capacity it becomes logical for the CLEC to direct trunk to end office A (PL-3). Qwest Exhibit No. PL-2 shows that the traffic volume spread across all end offices is less than the capacity of a single switch port, whereas, PL-3 demonstrates that end office A is at the capacity of a single switch port and has a direct trunk directly to the CLEC switch. This creates

network efficiencies by eliminating the need to provide additional switching and trunking through the tandem.

Q. DOES QWEST USE THE SAME THRESHOLD TO EVALUATE ITS OWN NETWORK TRUNKING EFFICIENCIES?

A. Yes. Qwest applies the same network threshold in its own trunking analysis so that it may better utilize the trunking capacity between its end offices and tandems.

Q. WHAT WOULD BE THE RESULT IF NO INTERCONNECTING CARRIERS FOLLOWED THE 512 BHCCS RULE?

A. All switches have limits for trunking capacity. As carriers add more and more trunking to each tandem, the tandems would begin to reach capacity. Once a tandem reaches its maximum trunking capacity, an additional tandem would have to be installed.

IV. DISPUTED ISSUES NO. 2A AND 2B: ALL TRAFFIC ON INTERCONNECTION TRUNKS

Q. PLEASE EXPLAIN DISPUTED ISSUES NO. 2A AND 2 B.

A. Issues 2A and 2 B concern the types of traffic that may be combined over LIS trunks and whether Qwest is entitled to compensation for the interconnection

trunks it provides to Level 3. The testimony of Mr. Easton addresses the compensation issue while my testimony addresses the network and technical issues.

Q. WHAT LANGUAGE IS QWEST PROPOSING?

A. Qwest is proposing the following language which is found in the interconnection agreement ("ICA") filed by Qwest with its Response to Level 3's Petition:

> 7.2.2.9.3.1 Exchange Service (EAS/Local), ISP-Bound Traffic, IntraLATA LEC Toll , VoIP traffic and Jointly Provided Switched Access (InterLATA and IntraLATA Toll involving a third party IXC) may be combined in a single LIS trunk group or transmitted on separate LIS trunk groups.
>
> 7.2.2.9.3.1.1 If CLEC utilizes trunking arrangements as described in Section 7.2.2.9.3.1, Exchange Service (EAS/Local) traffic shall not be combined with Switched Access, not including Jointly Provided Switched Access, on the same trunk group, i.e. Exchange Service (EAS/Local) traffic may not be combined with Switched Access Feature Group D traffic to a Qwest Access Tandem Switch and/or End Office Switch.
>
> 7.2.2.9.3.2 CLEC may combine originating Exchange Service (EAS/Local) traffic, ISP-Bound Traffic, IntraLATA LEC Toll, VoIP Traffic and Switched Access Feature Group D traffic including Jointly Provided Switched Access traffic, on the same Feature Group D trunk group.
>
> 7.2.2.9.3.2.1 CLEC shall provide to Qwest, each quarter, Percent Local Use (PLU) factor(s) that can be verified with individual call detail records or the Parties may use call records or mechanized jurisdictionalization using Calling Party Number (CPN) information in lieu of PLU, if CPN is available. Where CLEC utilizes an affiliate's Interexchange Carrier (IXC) Feature Group D trunks to deliver Exchange Service (EAS/Local) traffic with interexchange Switched Access traffic to Qwest, Qwest shall establish trunk group(s) to deliver Exchange Service (EAS/Local), Transit, and IntraLATA LEC Toll to

CLEC. Qwest will use or establish a POI for such trunk group in accordance with Section 7.1.

Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?

A. Level 3 proposes the following language:

> 7.2.2.9.3.1 Where CLEC exchanges Telephone Exchange Service, Exchange Access Service, Telephone Toll Service, and Information Services traffic with Qwest over a single interconnection network, CLEC agrees to pay Qwest, on Qwest's side of the POI, state or federally tariffed rates applicable to the facilities charges for InterLATA and/or InterLATA traffic in proportion to the total amount of traffic exchanged over such interconnection facility. Otherwise each party remains 100% responsible for the costs of its interconnection facilities on its side of the POI. Thus, by way of illustration only, where 20% of such traffic is interLATA (intrastate and interstate) and the remaining 80% is Section 251(b)(5) Traffic, CLEC would pay Qwest an amount equal to 20% of the applicable tariffed transport rate that would apply to a tariffed facility used solely for the exchange of such access traffic for such traffic exchanged on Qwest's side of the POI over a single interconnection trunk.
>
> Except as expressly provided in Section 7.3.1.1.3, each party shall bear all costs of interconnection on its side of the network in accordance with 47 C.F.R. § 51.703. Accordingly, unless otherwise expressly authorized according to Section 7.3.1.1.3, neither Party may charge the other (and neither Party shall have an obligation to pay) any recurring and/or nonrecurring fees, charges or the like (including, without limitation, any transport charges), associated with the exchange of any telecommunications traffic including but not limited to Section 251(b)(5) Traffic on its side of the POI.
>
> Each party is solely responsible for any and all costs arising from or related to establishing and maintaining the interconnection trunks and facilities it uses to connect to the POI. Thus, neither party shall require the other to bear any

additional costs for the establishment and operation of interconnection facilities that connect its network to its side of the POI. If traffic is combined, Section 7.3.9 of this Agreement applies.

7.2.2.9.3.2 CLEC may combine Exchange Service (EAS/Local) traffic, ISP-Bound Traffic, Exchange Access (IntraLATA Toll carried solely by Local Exchange Carriers), VoIP Traffic and Switched Access Feature Group D traffic including Jointly Provided Switched Access traffic, on the same Feature Group D trunk group or over the same interconnection trunk groups as provided in Section 7.3.9.

Q. WHAT CONCERNS DOES QWEST HAVE WITH LEVEL 3'S PROPOSED LANGUAGE?

A. Level 3 is proposing to route switched access traffic over local trunks. This creates several technical problems that have various impacts to Qwest, CLECs and independent companies. One of these impacts is the generation of phantom traffic. These technical problems are mainly associated with the recording of the switched access traffic. Switched access traffic is typically routed over access service trunks such as Feature Group D ("FGD") trunks. Level 3's proposed language creates technical difficulties that would otherwise be avoided by using the access service trunks which all other Interexchange service providers establish with Qwest. Qwest has also provided Level 3 with language that would allow Level 3 to route both its local and its switched access traffic over FGD. The routing of Level 3's local and switched access traffic over FGD trunking provides

Level 3 with the same efficiencies that it would obtain if it were allowed to route traffic over local interconnection trunking. In addition, routing of local and access traffic over FGD allows for the appropriate recording of traffic that alleviates the concern of phantom traffic. Furthermore, Qwest's proposed language is in keeping with industry practice.

Q. WHAT IS SWITCHED ACCESS TRAFFIC?

A. Switched access traffic is InterLATA and IntraLATA traffic that routes to and from IXCs. This traffic typically routes between IXCs and Local Exchange Carriers ("LECs"). IXCs purchase switched access services from LECs so that they may receive and deliver InterLATA toll and IntraLATA toll traffic to and from LECs networks. This switched access service typically utilizes Feature Group trunking. Feature Group trunking is a software feature of a telecommunications switch that allows IntraLATA toll and InterLATA toll traffic to be routed to IXC networks. FGD is the most common software feature used to route traffic to IXCs and is on an equal access basis. This traffic is specifically routed to and from IXCs.

Q. IS YOUR DESCRIPTION OF SWITCHED ACCESS CONSISTENT WITH THE DEFINITION AGREED TO IN THE PROPOSED ICA?

A. Yes.

Q. WHAT SPECIFIC TECHNICAL PROBLEMS WOULD BE CREATED IF LEVEL 3 ROUTES SWITCHED ACCESS TRAFFIC OVER LIS TRUNKS?

A. The most significant problem with routing switched access traffic over LIS trunks is Qwest's inability to generate a record for billing. Specifically, Qwest's recording of LIS trunks is not designed or engineered to record switched access traffic for the purposes of billing switched access charges for that traffic.

Q. WHAT METHODS DOES QWEST USE TO RECORD TRAFFIC?

A. There are two methods that Qwest uses to record traffic for intercarrier compensation. The first is through a switch-based recording and the second is through a link monitoring recording based on SS7 signaling. The switch-based recording uses memory in the switch to record and format the information that is received by the switch. The SS7 based recording tool records traffic using information provided in the SS7 signaling stream.

Q. HOW ARE THESE TWO METHODS OF RECORDING TRAFFIC USED FOR INTERCARRIER COMPENSATION?

A. Switch-based recordings are used for Access Service billing of IXCs and billing of Wireless carriers. The use of these recordings is based on the Access Service that is requested by an IXC or Interconnection Service that is requested by a

Wireless carrier. As I explained above, IXCs obtain connections to Qwest's network using access services such as FGD. Wireless Service providers typically request interconnection using Type 2 interconnection trunking.

CroSS7 recordings on the other hand are used for solely for billing CLECs and some independent companies for local traffic. The CroSS7 recording capability has been set up associated with LIS trunks so that local traffic may be recorded.

Q. IS A SWITCH-BASED RECORD CREATED ON LOCAL CALLS?

A. No. Prior to 1996 and the Telecom Act there was no need to record local traffic for the purposes of intercarrier compensation. Before the 1996 Act local service was provided exclusively by Incumbent Local Exchange Carriers ("ILEC") and was typically provided at a flat rate. Thus there was no need to record local traffic. However, after the 1996 Act and the introduction of CLECs, reciprocal compensation for local traffic became an issue. As a result, CroSS7 was developed to record traffic that was exchanged between Qwest and CLECs over LIS trunks.

Q. DOES CROSS7 RECORD SWITCHED ACCESS FOR BILLING PURPOSES?

A. No. There was no need to enable CroSS7 to record switched access traffic for billing purposes or to incur the expense of creating billing records for additional

services. This is because access service recording was done by a switch based recording associated with access service trunking. CroSS7 was developed solely to record local traffic that was exchanged with CLECs for billing purposes.

Q. IF LEVEL 3 WERE TO ROUTE SWITCHED ACCESS TRAFFIC OVER LIS TRUNKS, WOULD QWEST HAVE THE ABILITY TO CREATE A SWITCHED ACCESS RECORD?

A. No. Because CroSS7 was not engineered for the purposes of recording switched access traffic, Qwest would not have the ability to create a switched access record for billing purposes.

Q. WHAT OTHER PROBLEMS WOULD OCCUR IF LEVEL 3 WERE ALLOWED TO ROUTE SWITCHED ACCESS TRAFFIC OVER LIS TRUNKS?

A. If Level 3 were to route switched access traffic over its local LIS with Qwest, other carriers such as independent companies and other CLECs would view this traffic as phantom traffic. These carriers would view this as phantom traffic because these carriers would not receive a jointly provided switched access records associated with the traffic that Level 3 would be routing over LIS trunks. In other words, CLECs and independent companies that terminate Level 3's

switched access traffic that is routed through Qwest over LIS trunks would not have the ability to bill terminating access charges to Level 3.

Q. WILL QWEST PROVIDE LEVEL 3 THE CAPABILITY TO ROUTE BOTH SWITCHED ACCESS TRAFFIC AND LOCAL TRAFFIC OVER A SINGLE TRUNK GROUP?

A. Yes.

Q. WHAT IS QWEST OFFERING TO LEVEL 3 THAT PROVIDES LEVEL 3 THE CAPABILITY IT IS SEEKING?

A. Qwest's proposed language gives Level 3 the capability it is seeking. Qwest's language allows Level 3 to route both its local and toll traffic over FGD trunking. As I described above, these trunks are typically used for routing switched access traffic. Qwest has developed a methodology for Level 3 to route its local traffic over these same trunks. Furthermore, Qwest has also developed the ability to record this traffic so that local traffic and access traffic are billed appropriately. AT&T has similar routing provisions in its agreement with Qwest.

Q. ARE THE NETWORK EFFICIENCIES DIFFERENT IF LEVEL 3 WERE TO ROUTE SWITCHED ACCESS TRAFFIC AND LOCAL TRAFFIC OVER FEATURE GROUP D VERSUS OVER LIS TRUNKS?

A. No. Network efficiency is not an argument against using an established method for routing Level 3's switched access traffic and local traffic over FGD trunking. Once again, Level 3's argument can be distilled down to the charges it might pay and not network efficiencies or technical feasibility. Level 3 does not want to pay the same rates that all other IXCs pay to provision its ability to route switched access traffic to Qwest.

Q. LEVEL 3 HAS RECENTLY COMPLETED ITS ACQUISITION OF WILTELL. DID LEVEL 3 ACQUIRE AN EXTENSIVE FEATURE GROUP D NETWORK THROUGH THE PURCHASE OF WILTELL?

A. Yes. WilTel's website provided insight to the network and the capabilities that Level 3 has acquired.[2] The acquisition of WilTel by Level 3 allows "nationwide" origination or "worldwide" termination of switched access traffic. WilTel provides "[a] nationwide Feature Group D deployment and fully redundant SS7 network…"

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[2] Exhibit PL-4, http://www.wiltel.com/products/content/voice_services/oneplus.htm

Q. CAN LEVEL 3 USE THE NETWORK ARCHITECTURE THAT IT NOW HAS IN PLACE TO ROUTE BOTH SWITCHED ACCESS AND LOCAL TRAFFIC TO QWEST USING FEATURE GROUP D TRUNKS?

A. Yes. Level 3 can use the existing transport capacity it has established with Qwest to route both its switched access traffic and local traffic using FGD. Level 3 has two opportunities to use the existing network that it has in place. First, Level 3 may convert its LIS trunks to FGD trunks. This conversion is a software function of Qwest's switch that does not require changes to Level 3's switch. This conversion would not require a net increase to Level 3's network capacity for the termination of traffic with Qwest. Therefore, Level 3 would merely need to submit an order for Qwest to make this software change. This conversion would allow Level 3 to route both switched access and local traffic over FGD trunks. Secondly, Level 3 may offset the number of trunks that it converts by routing some of its local traffic to the WilTel FGD network that it has recently acquired. Both of these options provide Level 3 with the efficiencies of routing its traffic over a single FGD network.

Q. WILL THERE BE A SIGNIFICANT AMOUNT OF ACCESS TRAFFIC THAT WILL ROUTE TO QWEST FROM LEVEL 3?

A. Yes. As a result of the WilTel acquisition, the volume of switched access traffic delivered by Level 3 to Qwest will be substantial. Level 3 will be among the top five users of Qwest's switched access services.

Q. WHY SHOULD QWEST'S LANGUAGE BE ADOPTED?

A. Qwest's language more appropriately provides Level 3 with the capability to combine traffic on a single trunk group. At the same time, Qwest's language provides for routing and recording of switched access and local traffic that is consistent with the way other IXCs and CLECs route traffic. It is consistent with industry practice and does not require a "one-off" solution developed solely for Level 3.

V. DISPUTED ISSUE NO. 8: DEFINITION OF CALL RECORD

Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 8.

A. The disputed issue No. 8 concerns what information should be included in the record of a call. Specifically, what call information must be provided in a call record so that the record may be used for intercarrier billing purposes? Although there are some technical limitations in some cases that prohibit the identification

of the origination of a call, a call record must include certain fundamental information to create a record for billing purposes. Qwest objects to Level 3's redefining of longstanding industry practice. Level 3's proposed language would require call information that is not necessary for the creation of a call record but omit other information that that is required for the creation of a call record.

Q. WHAT LANGUAGE IS QWEST PROPOSING?

A. Qwest proposes the following language which is found in the interconnection agreement ("ICA") filed by Qwest with its Response to Level 3's Petition:

> "Call Record" means a record that provides key data about individual telephone calls. It includes originating telephone number, terminating telephone number, billing telephone number (if different from originating or terminating number) time and date of call, duration of call, long distance carrier (if applicable), and other data necessary to properly rate and bill the call.

Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?

A. Level 3 proposes the following:

> "Call Record" shall include identification of the following: charge number, Calling Party Number ("CPN"), Other Carrier Number ("OCN"), or Automatic Number Identifier ("ANI"), Originating Line Indicator ("OLI"). In the alternative, a "Call Record" may include any other information agreed upon by both Parties to be used for identifying the jurisdictional nature of the calling party or for assessing applicable intercarrier compensation charges.

Q. WHY IS QWEST OPPOSED TO LEVEL 3'S PROPOSED DEFINITION OF A CALL RECORD?

A. Level 3's definition of a call record obligates both parties to provide certain types of information about a call that may not be available on every call and requires information about a call that has never been required by industry standards. Level 3 also omits information that is essential for a complete call record. In addition, Level 3 uses terms that are unclear and undefined by the telecommunications industry.

Q. WHAT DOES LEVEL 3'S LANGUAGE REQUIRE THAT MAY NOT BE AVAILABLE FOR ALL VALID CALL RECORDS AND WHY DOES QWEST OPPOSE THE OBLIGATION TO PROVIDE THIS INFORMATION?

A. Qwest opposes Level 3's language because it obligates both parties to provide call information that is not necessary to generate a valid call record. There are two examples of call information specified by Level 3 that are not necessary to create a valid call record.

Level 3's language requires a "charge number" or "Originating Line Indicator" ("OLI"). The Charge Number parameter and the Originating Line *Information* ("OLI") parameter are optional SS7 parameters that identify the billing telephone

number and class of service of a call respectively. The standard for local signaling does not require the population of either Charge Number or OLI signaling parameters.[3] As a result, valid call records can not currently be created under Level 3's definition for local calls. In addition, because IXCs typically do not forward Charge Number and OLI when terminating a call through Qwest to other local service providers via Jointly Provided Switched Access, terminating access records would also become invalid call records under Level 3's definition.

Level 3 obligates both parties to provide specific call information by incorporating the word "shall" without the appropriate exceptions in its proposed definition of a call record.

Q. WHAT IS SS7 AND HOW IS IT USED AS REFERENCED ABOVE?

A. Signaling System 7 or SS7 is an out of band Common Channel Signaling ("CCS") protocol that enables the set up and release of calls between switches throughout the PSTN. SS7 CCS also enables and initiates the recording of traffic for billing purposes. SS7 CCS uses a separate network than the one that carries the voice conversations between switches, thus the term out of band signaling. Unlike its

[3] GR-246-CORE, Telcordia Technologies Specification of Signaling System Number 7, Issue 6 December 2001.

Multifrequency signaling predecessor, SS7 CCS also uses digital transmission that enables more call associated information in less amount of time to be transmitted between switches that serve the end points of a call. A portion of the SS7 protocol is made up of parameters which are used to provide specific information about a call. These signaling parameters are defined by industry standards and populated under specific defined circumstances. Some parameters are mandatory with any call. For example, the called party number parameter must always be populated in the signaling stream for a call to complete. However, some parameters are mandatory with only specific types of calls. For example, the OLI parameter is needed for call completion only when the call is signaled to an IXC.

Q. WHAT ELEMENT OF CALL INFORMATION DOES LEVEL 3 OMIT WITH ITS PROPOSED DEFINITION OF CALL RECORD AND WHY IS IT IMPORTANT?

A. Level 3 has omitted call duration in its proposed definition of call record. It is important to include call duration in a call record because intercarrier compensation is based on network usage which is determined by the fundamental information provided by the call duration. Because today's intercarrier compensation is usage sensitive, the lack of call duration on a call record used for billing would void any record that does not have call duration information. In

addition to call duration, Level 3 has also omitted the time and date call information. Time and date are also important so that the call information can be associated specific to each particular call that is made throughout each day. This type of information is essential when trouble shooting discrepancies in billing information.

Q. WHAT TERMS DOES LEVEL 3 USE THAT APPEAR TO BE UNCLEAR AND UNDEFINED?

A. "Charge number", "Other Carrier Number" ("OCN"), "Automatic Line Identifier" ("ANI"), and "OLI" are four terms that are unclear, undefined, or inconsistent with the other uses of the terms that are defined in the proposed ICA.

"Charge number" The term "charge number" as Level 3 references in the definition of Call Record is used with a different meaning than the undisputed definition in the ICA. Level 3's use of "charge number" creates the potential for differing interpretations of what constitutes a charge number. It is important that the definition be specific when using terms that are otherwise defined in other parts of the proposed ICA.

"OCN" This acronym as used by Level 3 is undefined in the proposed ICA and its equivalent acronym has an alternate meaning in the telecommunications

industry. The industry uses the abbreviation "OCN" to represent "Operating Company Number." Without a definition of OCN in the proposed ICA that either confirms the same definition that is used in the telecommunications industry or specifically defines OCN to mean something different from its use in the telecommunication industry there will be disputes about its meaning.

"ANI" and "OLI" These terms are defined differently in the proposed ICA from the way Level 3 has defined these terms in their proposed definition of Call Record. The undisputed proposed ICA definitions of these terms are "ANI" and OLI where the "I" in ANI is not Identifier and the "I" in OLI is not "Indicator" as is otherwise defined in the Qwest proposed ICA and by the telecommunications industry. These terms are specifically defined in this ICA to correspond with the Industries' definition of the SS7 parameters that correspond to these terms.

Q. WHAT OTHER PROBLEMS WOULD ARISE IF CALL RECORD WERE DEFINED BY LEVEL 3'S PROPOSED LANGUAGE?

A. Level 3's call record definition would require Qwest to provide two types of call records, a call record specifically for Level 3 and then a second call record for all other carriers with which Qwest exchanges records. This would also require Qwest to implement two different processes and potentially enhance its billing systems to accommodate the different call record requirements. All CLECs that

follow industry standard would follow one type of call record requirement and Level 3 would then use an entirely new process that may require potential systems enhancements. This could take a number of years to develop. Regardless of whether Qwest were to develop this new call record and enhance the current systems to handle the changes or develop a separate manual process, it will require additional capital expense based solely on Level 3's request to change the existing call record requirements that to this point all other carriers in the industry follow.

Q. WHAT WOULD BE INVOLVED IF QWEST WERE REQUIRED TO MEET LEVEL 3'S DEFINTITION OF A CALL RECORD?

A. As my testimony explains above, Qwest would have to create switch functionality that it currently does not have. For Qwest's switching vender to develop such functionality would cost in excess of one million dollars and would take upwards of a year or more for this software development to be tested and implemented. Additionally, cost would be incurred based on the number of switches that would have to receive new software and that cost would be in the tens of millions of dollars.

Q. WHY SHOULD QWEST'S DEFINITION OF CALL RECORD BE USED IN THE ICA BETWEEN LEVEL 3 AND QWEST?

A. Qwest's definition of call record should be used because it includes the fundamental information that is required to create a valid call record and the flexibility to include other data that may be used to rate and bill calls for intercarrier compensation purposes. In addition, Qwest uses terms that are specific enough to identify what is required while at the same time remaining flexible enough to encompass all of the optional parameters that Level 3 wishes to require should they eventually become industry requirements. Unlike Level 3's language, Qwest's language does not include call information that could create disputes over the interpretation of the terms used in the definition. Likewise, Qwest's language eliminates any potential dispute as to whether the existence of call duration and the time and date a call occurred are required in a valid call record. Simply put, Qwest's language addresses all of Level 3's concerns, more clearly establishes the expectations of both companies for the creation of a valid call record, and has the flexibility to include additional call information that may be required to generate a valid call record in the future.

VI. DISPUTED ISSUE NO. 20: SIGNALING PARAMETERS

Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 20.

A. The issue at dispute here is what SS7 signaling information should be required for the exchange of traffic between Qwest and Level 3.

Q. WHAT LANGUAGE IS QWEST PROPOSING?

A. Qwest proposes the following language which is found in the interconnection agreement ("ICA") filed by Qwest with its Response to Level 3's Petition :

> 7.3.8 Signaling Parameters: Qwest and CLEC are required to provide each other the proper signaling information (e.g., originating Calling Party Number and destination called party number, etc.) per 47 C.F.R. § 64.1601 to enable each Party to issue bills in a complete and timely fashion. All CCS signaling parameters will be provided including Calling Party Number (CPN), Originating Line Information Parameter (OLIP) on calls to 8XX telephone numbers, calling party category, Charge Number, etc. All privacy indicators will be honored. If either Party fails to provide CPN (valid originating information), and cannot substantiate technical restrictions (i.e., MF signaling) such traffic will be billed as Switched Access. Traffic sent to the other Party without CPN (valid originating information) will be handled in the following manner. The transit provider will be responsible for only its portion of this traffic, which will not exceed more than five percent (5%) of the total Exchange Service (EAS/Local) and IntraLATA LEC Toll traffic delivered to the other Party. The Switch owner will provide to the other Party, upon request, information to demonstrate that Party's portion of no-CPN traffic does not exceed five percent (5%) of the total traffic delivered. The Parties will coordinate and exchange data as necessary to determine the cause of the CPN failure and to assist its correction.

Q. DOES QWEST HAVE ANY MODIFICATIONS TO ITS PROPOSED LANGUAGE?

A. Yes. To clarify 7.3.8 Qwest wishes to replace the following sentence:

> All CCS signaling parameters will be provided including Calling Party Number (CPN), Originating Line Information Parameter (OLIP) on calls to 8XX telephone numbers, calling party category, Charge Number, etc.

With the following sentence:

> All CCS signaling parameters will be provided including Calling Party Number (CPN), Originating Line Information Parameter (OLIP), calling party category, Charge Number, etc. on calls to 8XX telephone numbers.

The preceding changes are only intended to correct a clerical error in the original sentence structure.

Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?

A. Level 3 proposes the following:

> 7.3.8 Signaling Parameters: Qwest and CLEC are required to provide each other proper signaling information (e.g., originating Calling Record Information ~~Calling Party Number~~ and destination called party number, etc.) ~~per 47 C.F.R. § 64.1601~~ to enable each Party to issue bills in a complete and timely fashion. All CCS signaling parameters will be provided including Call Record Information (CRI) ~~Calling Party Number~~, Originating Line Information Parameter (OLIP) on calls to 8XX telephone numbers, calling party category, Charge Number, etc. All privacy indicators will be honored. If either Party fails to provide CRI ~~CPN~~ (valid originating information), and cannot substantiate technical restrictions (e.g. ~~i.e.~~, MF signaling, IP origination, etc.) such traffic will be billed as interstate Switched Access. Transit Traffic sent to the other Party without CRI ~~CPN~~ (valid originating information) will be handled in the following manner. The transit provider will be responsible for only its portion of this traffic, which will not exceed more than five percent (5%) of the total Exchange Service (EAS/Local) and

Exchange Access (IntraLATA Toll) traffic delivered to the other Party. The Switch owner will provide to the other Party, upon request, information to demonstrate that Party's portion of no-CRI traffic does not exceed five percent (5%) of the total traffic delivered. The Parties will coordinate and exchange data as necessary to determine the cause of the CRI ~~CPN~~ failure and to assist its correction. All Exchange Service (EAS/Local) and Exchange Access calls exchanged without CRI information will be billed as either Exchange Service (EAS/Local) Traffic or Exchange Access Traffic in direct proportion to the minutes of use (MOU) of calls exchanged with CRI ~~CPN~~ information for the preceding quarter, utilizing a PLU factor determined in accordance with Section 7.2.2.9.3.2 of this Agreement.

Q. WHY DOES QWEST OBJECT TO LEVEL 3'S PROPOSED LANGUAGE?

A. Qwest objects to Level 3's language because it mischaracterizes *IP origination* (emphasis added) as a technical limitation to providing signaling parameters. Level 3's proposed language also creates an obligation to populate a signaling parameter, specifically Call Record Information ("CRI"), which does not exist within the SS7 protocol. In addition, Level 3 does not define CRI. To the extent Level 3's definition of CRI would use similar terms as are used in Level 3's definition of Call Record, it is not at all clear that the requirement for providing the CRI under Level 3's terms can be met. Level 3's proposed language also fails to acknowledge that the FCC has recognized certain limitations exist that prohibit or limit the delivery of specific types of signaling information. Qwest further objects to Level 3's language because it inappropriately applies interstate switched access rates onto traffic that is intrastate.

Q. IS IT TRUE THAT VOIP IS A TECHNICAL RESTRICTION FOR PROVIDING CPN?

A. Absolutely not. Contrary to Level 3's petition and their proposed language, there is no technical limitation that would prevent Level 3 from populating CPN for VoIP originated traffic. In fact, VoIP traffic is subject to all of the same limitations as any PSTN originated call after the IP to TDM conversion takes place and the traffic enters the PSTN. All limitations that are identified by Qwest's language apply once the traffic enters the PSTN. Level 3 is attempting to make VoIP traffic more than it really is. It is just a voice call that is routed and transported with a different protocol until the protocol changes at which point it is like any other TDM call.

Q. HAS THERE BEEN AN INDUSTRY STANDARD DEVELOPED TO ADDRESS VOIP ORIGINATED CALLS?

A. No. Level 3 wishes to address the signaling of VoIP traffic even though there has been no industry standard established to address the identification of VoIP originated traffic. Until such time as an industry standard is developed, the industry must use the existing standards for signaling traffic through the PSTN and the well established FCC ESP exemption rules that determine how the traffic from VoIP service providers is treated. Level 3 is attempting to jump the gun with regard to the identification of VoIP originated traffic by putting into place a

signaling solution for the identification of VoIP originated traffic that benefits only itself and not the needs of the industry as a whole. It has yet to be determined by industry standards whether signaling is the most appropriate solution for identifying VoIP originating traffic.

Q. HOW DOES LEVEL 3'S PROPOSED LANGUAGE CREATE A SIGNALING PARAMETER THAT DOES NOT EXIST?

A. Section 7.3.8 addresses signaling parameters. Level 3 seems to be attempting to create a new signaling parameter called CRI by including the reference to CRI in the list of SS7 signaling parameters. There is no such signaling parameter as CRI that exists in the SS7 protocol. Level 3's proposed language, however, attempts to prematurely redefine signaling that occurs between two networks and changes the meaning and intent of the language to encompass all call record information that may or may not exist within the protocol of signaling.

Q. WHAT IS AN EXAMPLE OF INFORMATION THAT DOES NOT EXIST IN THE SIGNALING OF A CALL

A. Call duration. There is no signaling parameter that is used in the PSTN to provide call duration. In addition, there is no signaling parameter that provides the OCN. Currently both the call duration and OCN can be only provided through post call processing. It is through the post call processing that call detail records are

created. This type of information (i.e. OCN and call duration) is determined by other sources and provided as part of the record that ultimately gets created and exchanged between carriers.

Q. WHAT WOULD BE INVOLVED IN THE CREATION OF A NEW SIGNALING PARAMETER?

A. The creation of a new signaling parameter would be a colossal undertaking, could take years to implement and would cost tens of millions of dollars. First, the industry would have to come to agreement on the definition of the parameter. Once the parameter was defined by the industry then all vendors and carriers that use the SS7 protocol in their equipment and network would have to incorporate the new protocol parameter. This would have to occur for all existing and new signaling equipment. This would include modification to practically every switch in the United States and would also impact other countries to the extent that SS7 is used outside of the United States. This could take years to implement and cost tens if not hundreds of millions of dollars. In addition, some carriers may not use the parameter and others may expect to be compensated for transporting the additional signaling data.

Q. DOES LEVEL 3 DEFINE CRI?

A. No. One of the problems Qwest has with CRI is that Level 3 does not define the term in its proposed contract language. Since Level 3 does not define CRI, its meaning in the ICA would then be left open for dispute.

Q. WHAT PROBLEMS WOULD ARISE IF CRI WERE TO BE DEFINED BY THE SAME INFORMATION THAT IS USED BY LEVEL 3 TO DEFINE CALL RECORD?

A. The same problems that arise in issue No. 8 would arise here. In addition, call records and signaling serve different functions. Call signaling is real time data that is used to set up and release calls across the PSTN. Call records are generated using post call processing and are used for the purposes of billing. Although call records may include some signaling related information, call records include information that is not provided within the signaling stream such as date, time, and call duration that are determined outside the signaling stream. Level 3 has made section 7.3.8 more confusing and more cumbersome to manage by inserting call record information that may not exist in the signaling protocol.

Q. WHAT PROBLEMS DOES QWEST SEE IF LEVEL 3 WERE TO DEFINE ONLY THE SIGNALING PARAMETERS AS ARE USED IN LEVEL 3'S DEFINITION OF CALL RECORD?

A. While Level 3 identifies several signaling parameters in its definition, there is only one call parameter that could always have a substantial impact on the creation of a call record. This is the Calling Party Number ("CPN") parameter. The CPN parameter is the number of the party that places a call *i.e.* the "from" number. Level 3's language inserts signaling parameters that may or may not be present, thus making a call record that would otherwise be valid for billing purposes invalid. Based on Level 3's definition of call record, a call that contains enough information to create a call record for Qwest and other carriers would be classified as a no-CRI by Level 3. For example, if a local call is routed to Level 3 that lacks either a Charge Number or the Originating Line Indicator, under Level 3's language, this local call would be defined as a no-CRI call even if the called party number and calling party number were present in the signaling stream. Typically, local calls are not signaled with Charge Number or OLI. It is for these reasons that Level 3's language will lead to disputes over what signaling information is necessary for billing.

Q. IS RATING NO-CPN TRAFFIC BASED ON "INTERSTATE SWITCHED ACCESS RATES" APPROPRIATE AS PROPOSED BY LEVEL 3?

A. No. Qwest opposes Level 3's proposal to route interstate switched access over LIS trunks as my testimony explains for Issue 2. Therefore, interstate switched access charges would not be appropriately applied to No-CPN traffic.

Q. WHY IS QWEST'S LANGUAGE MORE APPROPRIATE?

A. Qwest's language uses terms that are clearly defined by the contract and the industry. Qwest language provides clear expectations for the signaling of traffic between the parties' networks.

VII. SUMMARY/CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Although complex at times, the issues of my testimony revolve around three issues: 1) Level 3's ability to establish a SPOI in a LATA; and 2) the types of traffic that may be combined on interconnection trunks; and 3) the call information that should be required in a call record.

Although, Level 3's ability to establish a SPOI is more about compensation for providing interconnection facilities, the FCC contemplated the logistics for interconnecting two networks when it required LECs to provide interconnection. It recognized that each carrier must be able to retain responsibility for the

management, control, and performance of its network. The FCC also acknowledges that networks had interconnected prior to the Telecommunications Act of 1996. In support of its recognition of maintaining network reliability and interoperability, and the existence of network interconnections, the FCC acknowledged certain logical methods to interconnect networks such as cross connect points and main distribution frames as technically feasible points of interconnection. Qwest provides such technical feasible points for the purpose of interconnection with Qwest's network.

As to the types of traffic that can be carried on interconnection trunk groups, Qwest has attempted to be responsive to Level 3's desire to combine traffic on trunk groups. Qwest is willing to allow all traffic types, with the exception of switched access traffic, to be carried over LIS trunks. The law is also clear about interexchange traffic and the requirement for Qwest to provide switched access services to IXCs for such interexchange traffic. Because of billing issues, systems issues and Qwest's obligation to provide jointly provided switched access records to other ILECs and CLECs, Qwest requires that switched access traffic be carried over Feature Group trunks. Nonetheless, Qwest has attempted to accommodate Level 3's desire for network efficiencies by agreeing to let Level 3 combine all of its traffic over Feature Group D trunks. This solution achieves the efficiencies sought by Level 3 while at the same time allowing Qwest to continue to use its

existing billing systems and processes. For these reasons, Level 3's proposed combining of traffic on LIS trunks should be rejected.

Finally, a call record must include certain fundamental information to create a record for billing purposes. Although there are some technical limitations in some cases that prohibit the identification of the origination of a call, Level 3 attempts to go beyond the fundamental information and create requirements for a call record that may not legitimately be provided. Qwest's definition provides for all of the fundamental information needed in a call record and at the same time provides the flexibility to accept additional information to create a call record which may be used for billing. Level 3 goes beyond what is recognized by the industry and then inappropriately places financial penalties for non-compliance.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.