



Qwest

421 Southwest Oak Street
Suite 810
Portland, Oregon 97204
Telephone: 503-242-5623
Facsimile: 503-242-8589
e-mail: alex.duarte@qwest.com

Alex M. Duarte

Corporate Counsel

July 19, 2006

Frances Nichols-Anglin
Oregon Public Utility Commission
550 Capitol Street NE, Suite 215
Salem, OR 97301-2551

Re: ARB 665—Errata Version of Supplemental Opening Testimony of Phil Linse

Dear Ms. Nichols-Anglin:

Enclosed please find an original and five (5) copies of the an errata version of the Supplemental Opening Testimony of Phil Linse (Qwest/32). This filing completely replaces Qwest/32.

After filing the original testimony, we noted that there were some formatting problems with pages 32-33 and 42-46 of the filed testimony. The errata version corrects those problems but makes no changes to the text of the testimony. As Mr. Linse was reviewing the testimony he also noted a few typographical and capitalization errors, which have been corrected on the errata version. Those changes are as follows:

<u>Original Page</u>	<u>Change</u>
Page 17, lines 2 and 4:	Replace "Linse/34" with "Qwest/34."
Page 29, line 8:	Change "Wholesale" to "wholesale."
Page 31, line 10:	Replace "UNE" with "wholesale."

- Page 38, lines 13-15: Spell out “Public Switched Telephone Network,” “Internet Protocol,” and “Time Division Multiplexing.” (This now appears at page 35, lines 15-16 of the errata version).
- Page 38, line 18: Replace “TDM” with “TDM/PSTN.” (This now appears at page 35, line 21 of the errata version).
- Page 39, line 16: Delete “location of the.” (This deletion is from the sentence that now appears at page 36, lines 15-16 of the errata version).
- Page 39, line 21 Change “Signaling” to “signaling.” (This now appears at page 36, line 20 of the errata version).
- Page 46, line 1: Change “Signaling Network” to “signaling network.” (This now appears at page 41, line 1 of the errata version).

If you have any questions about the foregoing, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alex M. Duarte', with a stylized, cursive script.

Alex M. Duarte

CMB:cmb
Enclosure

CERTIFICATE OF SERVICE VIA E-MAIL

I do hereby certify that a true and correct copy of the foregoing QWEST CORPORATION'S ERRATA SUPPLEMENTAL OPENING TESTIMONY OF PHILIP LINSE (QWEST/32) was served on the 19th day of July, 2006 via e-mail electronic transmission upon the following individuals:

Richard E. Thayer, Esq.
*Erik Cecil
Level 3 Communications, LLC
1025 Eldorado Boulevard
Broomfield CO 80021
Rick.thayer@level3.com
Erik.cecil@level3.com

Christopher W. Savage
Cole, Raywid & Braverman, LLP
1919 Pennsylvania Ave., NW
Washington, DC 20006
Chris.savage@crblaw.com

*Lisa F. Rackner
Ater Wynne, LLP
222 SW Columbia St., Suite 1800
Portland, OR 97201
lfr@aterwynne.com

Henry T. Kelly
Joseph E. Donovan
Scott A. Kassman
Kelley Drye & Warren LLP
333 West Wacker Drive
Chicago, Illinois 60606
(312) 857-2350(voice)
(312) 857-7095 (facsimile)
hkelly@kelleydrye.com
jdonovan@kelleydrye.com
skassman@kelleydrye.com

*Thomas Dethlefs
Qwest Corporation
1801 California St., Suite 900
Denver, CO 80202
Thomas.dethlefs@qwest.com

Wendy Martin
Ater Wynne, LLP
222 SW Columbia St., Suite 1800
Portland, OR 97201
wlm@aterwynne.com

DATED this 19th day of July, 2006.

QWEST CORPORATION



By: _____

Alex M. Duarte (OSB No. 02045)
421 SW Oak Street, Suite 810
Portland, OR 97204
503-242-5623
503-242-8589 (facsimile)
alex.duarte@qwest.com

Attorney for Qwest Corporation

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

ARB 665

In the Matter of the Petition of
Level 3 Communications, LLC's
Petition for Arbitration Pursuant
to Section 252 (b) of the
Communications Act of 1934
with Qwest Corporation

**SUPPLEMENTAL OPENING TESTIMONY
(ERRATA VERSION)**

PHILIP LINSE

FOR

QWEST CORPORATION

July 14, 2006

(Disputed Issue Nos. 1, 2, 20, and additional Issues regarding Transit
Limitations and Quad Links)

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1 **I. IDENTIFICATION OF WITNESS**

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

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

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

10 A. I received a Bachelors degree from the University of Northern Iowa in 1994. I
11 began my career in the telephone communications industry in 1995 when I joined
12 the engineering department of CDI Telecommunications in Missoula, Montana.
13 In 1998, I accepted a position with Pacific Bell as a Technology Planner with
14 responsibility for analyzing network capacity. In 2000, I accepted a position with
15 U S WEST as a Manager, Tactical Planning. In 2001, I was promoted to a staff
16 position in Technical Regulatory Interconnection Planning for Qwest. In this
17 position, I developed network strategies for interconnection of unbundled
18 Switching, Signaling System 7 (“SS7”) and other switching-related products. My
19 responsibilities also included the development of network strategies based on the
20 evaluation of new technologies. I was one of the network organization’s subject
21 matter experts. In 2003, I was promoted to my current position as Director of

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

1 **II. PURPOSE OF TESTIMONY**

2 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

3 A. The purpose of my testimony is to detail Qwest's positions, from a technical
4 perspective, as they relate to the disputed issues that exist based on Level 3's most
5 recent proposed contract language for the interconnection agreement ("ICA")
6 between the parties. This testimony should be viewed as a complete replacement
7 for my earlier Opening Testimony. My testimony will show that the Qwest
8 position on these issues is reasonable, appropriate and more than adequately
9 provides for the interconnection needs of Level 3. Specifically, my testimony will
10 address the following issues:

- 11 • Issue 1: Costs of Interconnection
- 12 • Issue 2A & B: Combining Traffic on Interconnection Trunks
- 13 • Issue 2C: Transit Limitation
- 14 • Issue 20: Signaling Parameters
- 15 • Issue: Quad Links

16 In portions of my testimony that follow, where the disputed language is similar
17 but contain modifications to Qwest's language, I have underlined the language
18 that Level 3 wishes to add and have stricken through language that Level 3 wishes
19 to delete. Where the language has significant differences I have provided the full
20 text of the opposing language of both parties.

1 **III. DISPUTED ISSUE NO. 1: COSTS OF INTERCONNECTION**

2 **Issue No. 1A**

3 **Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 1A.**

4 A. Issue 1A relates to Level 3's attempt, as discussed in more detail in Mr.
5 Brotherson's testimony, to change call rating so that it is based on the location of
6 its CLEC Point of Interconnection ("POI") or transport capacity that it purchases
7 from Qwest. My testimony addresses Issue 1A from a technical perspective; the
8 testimony of Mr. Easton will more fully address compensation issues and why
9 Level 3 is required to compensate Qwest for interconnection facilities provided by
10 Qwest.

11 **Q. WHAT LANGUAGE DOES QWEST PROPOSE?**

12 A. Qwest proposes the following language:

13 7.1.1 This Section describes the Interconnection of Qwest's network and
14 CLEC's network for the purpose of exchanging Exchange Service
15 (EAS/Local traffic), IntraLATA Toll carried solely by local exchange
16 carriers and not by an IXC (IntraLATA LEC Toll), ISP-Bound traffic, and
17 Jointly Provided Switched Access (InterLATA and IntraLATA) traffic.
18 Qwest will provide Interconnection at any Technically Feasible point
19 within its network. Interconnection, which Qwest currently names "Local
20 Interconnection Service" (LIS), is provided for the purpose of connecting
21 End Office Switches to End Office Switches or End Office Switches to
22 local or Access Tandem Switches for the exchange of Exchange Service
23 (EAS/Local traffic); or End Office Switches to Access Tandem Switches
24 for the exchange of IntraLATA LEC Toll or Jointly Provided Switched
25 Access traffic. Qwest Tandem Switch to CLEC Tandem Switch
26 connections will be provided where Technically Feasible. New or
27 continued Qwest local Tandem Switch to Qwest Access Tandem Switch
28 and Qwest Access Tandem Switch to Qwest Access Tandem Switch
29 connections are not required where Qwest can demonstrate that such

1 connections present a risk of Switch exhaust and that Qwest does not
2 make similar use of its network to transport the local calls of its own or
3 any Affiliate's End User Customers.

4 7.1.1.1 CLEC agrees to allow Qwest to conduct operational verification
5 audits of those network elements controlled by CLEC and to work
6 cooperatively with Qwest to conduct an operational verification audit of
7 any other provider that CLEC used to originate, route and transport VoIP
8 traffic that is delivered to Qwest, as well as to make available any
9 supporting documentation and records in order to ensure CLEC's
10 compliance with the obligations set forth in the VoIP definition and
11 elsewhere in this Agreement. Qwest shall have the right to redefine this
12 traffic as Switched Access in the event of an "operational verification
13 audit failure". An "operational verification audit failure" is defined as:
14 (a) Qwest's inability to conduct a post-provisioning operational
15 verification audit due to insufficient cooperation by CLEC or CLEC's
16 other providers, or (b) a determination by Qwest in a post-provisioning
17 operational verification audit that the CLEC or CLEC's end users are not
18 originating in a manner consistent with the obligations set forth in the
19 VoIP definition and elsewhere in this Agreement.

20 7.1.1.2 Prior to using Local Interconnection Service trunks to terminate
21 VoIP traffic, CLEC certifies that the (a) types of equipment VoIP end
22 users will use are consistent with the origination of VoIP as defined in this
23 Agreement; and (b) types of configurations that VoIP end users will use to
24 originate calls using IP technology are consistent with the VoIP
25 configuration as defined in this Agreement.

26 **Q. WHAT LANGUAGE DOES LEVEL 3 PROPOSE?**

27 A. Level 3 proposes the following:

28 7.1.1 This Section describes the Interconnection of Qwest's network and
29 CLEC's network for the purpose of exchanging Exchange Service
30 (EAS/Local traffic), IntraLATA Toll carried solely by local exchange
31 carriers and not by an IXC (IntraLATA LEC Toll), **IntraLATA Toll and**
32 **InterLATA Traffic carried by an IXC for termination to a customer**
33 **of Qwest**, ISP-Bound traffic, and Jointly Provided Switched Access
34 (InterLATA and IntraLATA traffic). Qwest will provide Interconnection
35 at any Technically Feasible point within its network **consistent with**
36 **Section 51.321 of the FCC rules and Applicable law**. Interconnection,
37 which Qwest currently names "Local Interconnection Service" (LIS), is
38 provided for the purpose of connecting End Office Switches to End Office

1 Switches or End Office Switches to local or Access Tandem Switches for
2 the exchange of Exchange Service (EAS/Local traffic); or End Office
3 Switches to Access Tandem Switches for the exchange of Exchange
4 Access (IntraLATA Toll carried solely by local exchange carriers) or
5 Jointly Provided Switched Access traffic, **ISP-bound, VoIP, Exchange**
6 **Service, and terminating IntraLATA Toll or interLATA Traffic**
7 **carried by an IXC for termination to a customer of Qwest.** Qwest
8 Tandem Switch to CLEC Tandem Switch connections will be provided
9 where Technically Feasible. New or continued Qwest local Tandem
10 Switch to Qwest Access Tandem Switch and Qwest Access Tandem
11 Switch to Qwest Access Tandem Switch connections are not required
12 where Qwest can demonstrate that such connections present a risk of
13 Switch exhaust and that Qwest does not make similar use of its network to
14 transport the local calls of its own or any Affiliate's End User Customers.

15 7.1.1.1 CLEC agrees to allow Qwest to conduct operational verification
16 audits of those network elements controlled by CLEC and to work
17 cooperatively with Qwest to conduct an operational verification audit of
18 any other provider that CLEC used to originate, route and transport VoIP
19 traffic that is delivered to Qwest, as well as to make available any
20 supporting documentation and records in order to ensure CLEC's
21 compliance with the obligations set forth in the VoIP definition and
22 elsewhere in this Agreement. **Subject to this Agreement's dispute**
23 **resolution provisions,** Qwest shall have the right to redefine this traffic
24 as Switched Access in the event of an "operational verification audit
25 failure". An "operational verification audit failure" is defined as: (a)
26 Qwest's inability to conduct a post-provisioning operational verification
27 audit due to insufficient cooperation by CLEC or CLEC's other providers,
28 or (b) **a determination by Qwest in a post-provisioning** operational
29 verification audit that the CLEC or CLEC's end users are not originating
30 in a manner consistent with the obligations set forth in the VoIP definition
31 and elsewhere in this Agreement.

32 7.1.1.2 Prior to using Local Interconnection Service trunks to terminate
33 VoIP traffic, CLEC certifies **represents** that the (a) types of equipment
34 VoIP end users will use are consistent with the origination of VoIP as
35 defined in this Agreement; and (b) types of configurations that VoIP end
36 users will use to originate calls using IP technology are consistent with the
37 VoIP configuration as defined in this Agreement.

38 7.1.1.3 POI: Where Level 3 maintains a POI in a local calling area, the
39 Parties agree that VoIP and ISP-bound traffic exchanged via such POI will
40 be rated as Local. Where Level 3 does not have a POI in the local calling
41 area from which the ISP-bound or VoIP call originated, but Level 3 pays
42 Qwest's TELRIC costs for transporting such call from such local calling

1 area to Level 3 facilities, the Parties agree to rate such traffic as Local
2 (“Transport Assumed IP Traffic”).

3 7.1.1.4 Cost Responsibility. Where Level 3 establishes a POI within a
4 local calling area, each party will be responsible for constructing,
5 maintaining, and operating all facilities on its side of such POI.
6 Intercarrier compensation for VoIP and ISP-bound traffic will be paid on
7 such traffic in accordance with this Agreement and compensation for
8 InterLATA or IntraLATA Toll will be paid according to applicable tariffs.

9

10 **Q. WHY DOES QWEST OBJECT TO LEVEL 3’S PROPOSED LANGUAGE?**

11 A. Level 3’s contract language incorrectly defines its POI and Qwest provided
12 transport as the basis for call rating. In addition, Level 3’s proposed language
13 attempts to expand Qwest’s interconnection responsibility to where Qwest is
14 required to provision/build interconnection facilities to Level 3’s POI at no cost.
15 The testimony of Mr. Brotherson addresses the portions of Issue No.1A that
16 concern Voice over Internet Protocol (“VoIP”).

17 **Q. DOES THE POINT WHERE TWO CARRIER’S NETWORKS CONNECT
18 PROVIDE A BASIS FOR DETERMINING IF A CALL IS LOCAL?**

19 A. No. The point where two carrier networks connect is called a POI and is used for
20 the purposes of exchanging traffic and not for the purposes of determining call
21 rating. The exchange of traffic at a POI can include both local and long distance
22 traffic. From a technical perspective, traffic does not terminate at a POI—it is
23 simply a point at which two networks meet and through which traffic flows.

1 **Q. WILL LEVEL 3'S USE OF ITS POI FOR DETERMINING CALL**
2 **JURISDICTION IMPACT QWEST?**

3 A. Yes.

4 **Q. WHAT IMPACTS WOULD THERE BE TO QWEST IF LEVEL 3 IS**
5 **ALLOWED TO USE ITS POI AS THE BASIS FOR CALL RATING?**

6 A. Level 3's proposal to base call rating on the location of its POI would impact how
7 Qwest currently records and ultimately bills for long distance traffic to Level 3
8 ISP customers. This is because Qwest's carrier recording and billing has never
9 used a POI location as a relevant point for the basis of recording and billing of
10 any traffic. Thus, if Level 3's language were adopted, Qwest would be prevented
11 from properly billing originating access charges for traffic that Qwest end users
12 originate 1+ IntraLATA calls to Level 3's ISP customers; the result would be that
13 Qwest would lose those revenues.

14 **Q. WOULD USE OF ITS POI FOR RATING CALLS IMPACT OTHER**
15 **CARRIERS?**

16 A. Yes. Although Level 3 is proposing to use its CLEC's POI for call rating, the rest
17 of the industry uses the call origination and termination locations for rating calls.
18 Qwest exchanges long distance traffic with Interexchange Carriers ("IXCs") as
19 well as local and long distance traffic with Independent Telephone Companies
20 ("ICO"), Competitive Local Exchange Carriers ("CLECs"), and Wireless Service
21 Providers ("WSP"). Qwest also exchanges traffic with these carriers for the

1 purpose of transiting local and long distance traffic to other carriers. Level 3's
2 proposal to use a POI for the determination of call rating would deprive these
3 carriers on intercarrier compensation to which they are entitled.

4 **Q. HOW WOULD THE IMPACT TO OTHER CARRIERS BE MANIFEST IF**
5 **A POI WERE USED FOR CALL RATING?**

6 A. Other carriers would experience with increased phantom traffic as well as
7 increased disputed traffic.

8 **Q. DOES LEVEL 3'S PURCHASE OF TRANSPORT FROM QWEST**
9 **PROVIDE A BASIS FOR DETERMINING IF A CALL IS LOCAL?**

10 A. No. The Qwest transport of level 3's traffic is not used for the purposes of
11 determining call rating. The transport of traffic can include both local and long
12 distance traffic. From a technical perspective, the transporting traffic is does not
13 determinative of call rating—it is simply the facilities and circuits that exist
14 between Qwest and Level 3 witch carry traffic all types of traffic including local
15 and toll.

16 **Q. DOES QWEST TRANSPORT PROVIDED TO LEVEL 3 INTO A LOCAL**
17 **CALLING AREA PROVIDE UBIQUITOUS TRANSPORT OF ALL**
18 **TRAFFIC THAT ORIGINATES FROM THAT LOCAL CALLING AREA?**

19 A. No. When Level 3 purchases transport to a Qwest end office, the only Qwest
20 traffic that routes to Level 3 is Qwest traffic that originates from that end office.

1 Thus, traffic that originates from other Qwest end offices within the Local Calling
2 Area (“LCA”) would route using Qwest tandem transport facilities that are not
3 paid for by Level 3. As a result, Level 3’s proposed POI in the LCA does very
4 little to remove the obligation for Qwest to transport Level 3’s traffic to a distant
5 location outside the LCA.

6 **Q. WHY SHOULD LEVEL 3’S LANGUAGE BE REJECTED?**

7 A. Level 3’s Language creates call rating difficulties for Qwest as well as other
8 carriers that originate traffic that is destined for Level 3’s ISP customers. In
9 addition, Level 3’s language provides the false conclusion that Qwest would be
10 relieved of transporting Level 3’s traffic at no cost to Level 3. Thus, Level 3’s
11 proposed language should be rejected.

1 **Issue No. 1F**

2 **Q. PLEASE EXPLAIN DISPUTED ISSUE 1F.**

3 A. Issue 1F involves a dispute concerning Level 3 proposed modifications to Qwest
4 proposed language. Level 3's proposed modification would change the purpose
5 for Level 3 establishing alternate trunking as requested by Qwest where traffic
6 volumes justify alternate trunking. .

7 **Q. WHAT LANGUAGE IS QWEST PROPOSING?**

8 A. Qwest proposes the following language:

9 7.2.2.9.6 The Parties shall terminate Exchange Service (EAS/Local)
10 traffic on Tandem Switches or End Office Switches. CLEC may
11 interconnect at either the Qwest local tandem or the Qwest access tandem
12 for the delivery of local exchange traffic. When CLEC is interconnected
13 at the access tandem and when there is a DS1 level of traffic (512
14 BHCCS) over three (3) consecutive months between CLEC's Switch and a
15 Qwest End Office Switch, Qwest may request CLEC to order a direct
16 trunk group to the Qwest End Office Switch. CLEC shall comply with
17 that request unless it can demonstrate that such compliance will impose
18 upon it a material adverse economic or operations impact. Furthermore,
19 Qwest may propose to provide Interconnection facilities to the local
20 Tandem Switches or End Office Switches served by the Access Tandem
21 Switch at the same cost to CLEC as Interconnection at the Access Tandem
22 Switch. If CLEC provides a written statement of its objections to a Qwest
23 cost-equivalency proposal, Qwest may require it only: (a) upon
24 demonstrating that a failure to do so will have a material adverse affect on
25 the operation of its network and (b) upon a finding that doing so will have
26 no material adverse impact on the operation of CLEC, as compared with
27 Interconnection at such Access Tandem Switch.

28 **Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?**

29 A. Level 3 proposes the following:

1 7.2.2.9.6 The Parties shall terminate Exchange Service (EAS/Local)
2 traffic on Tandem Switches or End Office Switches. CLEC may
3 interconnect at either the Qwest local tandem or the Qwest access tandem
4 for the delivery of local exchange traffic. When CLEC is interconnected
5 at the access tandem and when there is a DS1 level of traffic (512
6 BHCCS) over three (3) consecutive months between CLEC's Switch and a
7 Qwest End Office Switch, Qwest may request CLEC to order a direct
8 trunk group to the Qwest End Office Switch **for purposes of network**
9 **management and routing of traffic to or from the POI.** CLEC shall
10 comply with that request unless it can demonstrate that such compliance
11 will impose upon it a material adverse economic or operations impact.
12 Furthermore, Qwest may propose to provide Interconnection facilities to
13 the local Tandem Switches or End Office Switches served by the Access
14 Tandem Switch at the same cost to CLEC as Interconnection at the Access
15 Tandem Switch. If CLEC provides a written statement of its objections to
16 a Qwest cost-equivalency proposal, Qwest may require it only: (a) upon
17 demonstrating that a failure to do so will have a material adverse affect on
18 the operation of its network and (b) upon a finding that doing so will have
19 no material adverse impact on the operation of CLEC, as compared with
20 Interconnection at such Access Tandem Switch.

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

22 A. Level 3 changes the purpose for Level 3 for establishing trunking to subtending
23 network switches when increases in traffic volumes justify the alternate trunking.
24 This is critical in maintaining Qwest's robust and reliable network for not only all
25 interconnecting carriers (including Level 3), but also for Qwest customers as well.
26 This insures that Qwest's network capacity may be managed and maintained
27 efficiently.

1 **Q. HOW DOES LEVEL 3'S LANGUAGE CHANGE THE PURPOSE FOR**
2 **THE REQUIREMENT TO ESTABLISH DIRECT END OFFICE**
3 **TRUNKING (512 BHCCS RULE)?**

4 A. Although it is unclear why Level 3 has made this language change, Level 3's
5 proposed language changes the purpose of establishing direct trunk groups to the
6 end office by having the requirement only apply to the management of traffic to
7 and from Level 3's POI. However, the purpose for Qwest's proposed language is
8 to manage the available network capacity at its tandem switches. As can be seen
9 in Qwest/33 and Qwest/34, when direct trunking is established to the Qwest end
10 office, the result is that the trunking to the POI remains the same while there
11 becomes less trunking through the Qwest tandem. Thus, it is the management of
12 connections with the tandem and not the Level 3 POI that is the purpose of
13 512 BHCCS. Level 3's proposed language changes this purpose and potentially
14 prevents Qwest from appropriately enforcing the purpose of this language.

15 **Q. IS A POI VULNERABLE TO THE SAME TRAFFIC MANAGEMENT**
16 **ISSUES AS TANDEM SWITCHES?**

17 A. No. It is for this reason that I find Level 3's proposed additional language
18 confusing and unclear. When direct trunking is requested to an end office, there
19 is no fundamental trunking change at the POI. The only purpose for the direct
20 trunking to the end office is to relieve the tandem of unnecessary trunking. There
21 is no technical benefit that is realized at the POI. Thus, Level 3's additional

1 language creates confusion and may prohibit Qwest from requesting direct end
2 office trunking for the purpose that the language originally served.

3 **Q. IS THERE ANY REASON TO MODIFY QWEST'S LANGUAGE TO**
4 **ADDRESS THE PURPOSE OF THE 512 BHCCS RULE?**

5 A. No. The language proposed by Qwest applies to hierarchical networks that use
6 tandem switches. Level 3's POI is neither a tandem switch nor does it provide the
7 hierarchical network architecture that would require the application of the
8 512 BHCCS rule. Level 3's proposed language makes no technical sense and
9 should be rejected.

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

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

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

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

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

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

16 **Q. WHAT IS THE 512 BHCCS RULE?**

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

1 **Q. HOW DOES THE 512 BHCCS RULE WORK?**

2 A. 512 BHCCS or 512 Busy Hour Centum Call Seconds is the measure of usage
3 capacity of a DS1 trunk during the busiest hour of the day. Usage is measured in
4 Centum Call Seconds (“CCS”) or one hundred call seconds. A line or trunk that
5 is in use for one hour, or sixty minutes, is being used for 3600 seconds, or 36
6 hundred call seconds, or 36 CCS. As stated in Newton’s Telecom Dictionary
7 CCS is: “One hundred call seconds or one hundred seconds of telephone
8 conversation. One hour of telephone traffic is equal to 36 ccs
9 (60*60=3600/100=36) which is equal to one erlang.” Newton’s Telecom
10 Dictionary, Volume 17 at 131 (February 2001). 512 BHCCs is essentially
11 equivalent to a DS1 worth of usage. Telecommunications switch ports typically
12 are provisioned in increments of DS1 capacity. Thus, it is generally recognized
13 by the industry as the traffic threshold that indicates a sufficiently high volume of
14 traffic that would warrant the provisioning of alternative, direct trunking
15 arrangements.

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

18 A. Qwest’s language establishes a threshold that facilitates efficient interconnection
19 between Qwest and all CLEC switches. The threshold allows Qwest to manage
20 traffic through tandem switches when traffic volumes justify a direct connection
21 with a specific end office. As can be seen in Exhibits Qwest/33 and Qwest/34, as
22 CLEC traffic that is destined for Qwest’s end office A (Qwest/33) reaches or

1 exceeds 512 BHCCS, or a DS1's capacity it becomes logical for the CLEC to
2 direct trunk to end office A (Qwest/34). Exhibit Qwest/33 shows that the traffic
3 volume spread across all end offices is less than the capacity of a single switch
4 port, whereas, Qwest/34 demonstrates that end office A is at the capacity of a
5 single switch port and has a direct trunk directly to the CLEC switch. This creates
6 network efficiencies by eliminating the need to provide additional switching and
7 trunking through the tandem.

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

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

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

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

1 **IV. DISPUTED ISSUES NO. 2A AND 2B: ALL TRAFFIC ON**

2 **INTERCONNECTION TRUNKS**

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

4 A. Issues 2A and 2 B concern the types of traffic that may be combined over LIS
5 trunks and whether Qwest is entitled to compensation for the interconnection
6 trunks it provides to Level 3. The testimony of Mr. Easton addresses the
7 compensation issue while my testimony addresses the network and technical
8 issues.

9 **Q. WHAT LANGUAGE IS QWEST PROPOSING?**

10 A. Qwest is proposing the following language:

11 7.2.2.9.3.1 Exchange Service (EAS/Local), ISP-Bound Traffic,
12 IntraLATA LEC Toll , VoIP traffic and Jointly Provided Switched Access
13 (InterLATA and IntraLATA Toll involving a third party IXC) may be
14 combined in a single LIS trunk group or transmitted on separate LIS trunk
15 groups.

16 7.2.2.9.3.1.1 If CLEC utilizes trunking arrangements as described in
17 Section 7.2.2.9.3.1, Exchange Service (EAS/Local) traffic shall not be
18 combined with Switched Access, not including Jointly Provided Switched
19 Access, on the same trunk group, i.e. Exchange Service (EAS/Local)
20 traffic may not be combined with Switched Access Feature Group D
21 traffic to a Qwest Access Tandem Switch and/or End Office Switch.

22 7.2.2.9.3.2 CLEC may combine originating Exchange Service
23 (EAS/Local) traffic, ISP-Bound Traffic, IntraLATA LEC Toll, VoIP
24 Traffic and Switched Access Feature Group D traffic including Jointly
25 Provided Switched Access traffic, on the same Feature Group D trunk
26 group.

27

1 7.2.2.9.3.2.1 CLEC shall provide to Qwest, each quarter, Percent Local
2 Use (PLU) factor(s) that can be verified with individual call detail records
3 or the Parties may use call records or mechanized jurisdictionalization
4 using Calling Party Number (CPN) information in lieu of PLU, if CPN is
5 available. Where CLEC utilizes an affiliate's Interexchange Carrier (IXC)
6 Feature Group D trunks to deliver Exchange Service (EAS/Local) traffic
7 with interexchange Switched Access traffic to Qwest, Qwest shall
8 establish trunk group(s) to deliver Exchange Service (EAS/Local), Transit,
9 and IntraLATA LEC Toll to CLEC. Qwest will use or establish a POI for
10 such trunk group in accordance with Section 7.1.

11 **Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?**

12 A. Level 3 proposes the following language:

13 7.2.2.9.3.1 Where CLEC exchanges Telephone Exchange Service,
14 Exchange Access Service, , and Information Services traffic with Qwest
15 over a single interconnection network, CLEC agrees to pay Qwest, on
16 Qwest's side of the POI, state or federally tariffed rates applicable to the
17 facilities charges for IntraLATA and/or InterLATA traffic in proportion to
18 the total amount of traffic exchanged over the interconnection facility
19 utilized. The facility charge that is the basis for the proportional charge
20 for the IntraLATA and/or InterLATA traffic exchanged shall be that
21 which corresponds to those facilities utilized by Qwest and Level 3 to
22 exchange the combined traffic.

23 7.2.2.9.3.2 CLEC may combine Exchange Service (EAS/Local) traffic,
24 ISP-Bound Traffic, Exchange Access, VoIP Traffic and Switched Access
25 Feature Group D traffic including Jointly Provided Switched Access
26 traffic, on the same Feature Group D trunk group or over the same
27 interconnection trunk groups as provided in Section 7.3.9.

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

30 A. Level 3 is proposing to route switched access traffic over LIS trunks. This creates
31 several technical problems that that have various impacts to Qwest, CLECs and
32 independent companies. In addition to the various impacts to Qwest, CLECs and
33 independent companies will be negatively impacted by Level 3's proposed

1 language because it will generate phantom traffic and prevent Qwest from
2 providing access records to Qwest's Qwest Platform Plus wholesale switching
3 customers. Ultimately, Level 3's proposed language sacrifices Qwest's ability to
4 create billing records so that Level 3 may obtain sole control over the information
5 that is used for billing Level 3.

6 Level 3's proposed language creates technical difficulties that would otherwise be
7 avoided by using the access service trunks which all other interexchange service
8 providers establish with Qwest. Qwest's language allows Level 3 to route both its
9 local and its switched access traffic over FGD. The routing of Level 3's local and
10 switched access traffic over FGD trunking provides Level 3 with the same
11 efficiencies that it would obtain if it were allowed to route traffic over local
12 interconnection trunking. In addition, routing of local and access traffic over
13 FGD allows for the appropriate recording of traffic that alleviates the concern of
14 phantom traffic. Furthermore, Qwest's proposed language is in keeping with
15 industry practice.

16 **Q. WHAT IS SWITCHED ACCESS TRAFFIC?**

17 A. Switched access traffic is InterLATA and IntraLATA traffic that routes to and
18 from IXC's. This traffic typically routes between IXC's and Local Exchange
19 Carriers ("LECs"). IXC's purchase switched access services from LECs so that
20 they may receive and deliver InterLATA toll and IntraLATA toll traffic to and
21 from LECs networks. This switched access service typically utilizes Feature

1 Group trunking. Feature Group trunking is a software feature of a
2 telecommunications switch that allows IntraLATA toll and InterLATA toll traffic
3 to be routed to IXC networks. FGD is the most common software feature used to
4 route traffic to IXCs and is on an equal access basis. This traffic is specifically
5 routed to and from IXCs.

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

8 A. Yes.

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

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

16 **Q. WHAT METHODS DOES QWEST USE TO RECORD TRAFFIC?**

17 A. There are two methods that Qwest uses to record traffic for intercarrier
18 compensation. The first is through a switch-based recording and the second is
19 through a link monitoring recording based on SS7 signaling. The switch-based
20 recording uses memory in the switch to record and format the information that is

1 received by the switch. The SS7 based recording tool records traffic using
2 information provided in the SS7 signaling stream.

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

5 A. Switch-based recordings are used for Access Service billing of IXC's and billing
6 of Wireless carriers. The use of these recordings is based on the Access Service
7 that is requested by an IXC or Interconnection Service that is requested by a
8 Wireless carrier. As I explained above, IXC's obtain connections to Qwest's
9 network using access services such as FGD. Wireless Service providers typically
10 request interconnection using Type 2 interconnection trunking.

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

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

15 A. No. Prior to 1996 and the Telecom Act there was no need to record local traffic
16 for the purposes of intercarrier compensation. Before the 1996 Act local service
17 was provided exclusively by Incumbent Local Exchange Carriers ("ILEC") and
18 was typically provided at a flat rate. Thus there was no need to record local
19 traffic. However, after the 1996 Act and the introduction of CLECs, reciprocal
20 compensation for local traffic became an issue. As a result, CroSS7 was

1 developed to record traffic that was exchanged between Qwest and CLECs over
2 LIS trunks.

3 **Q. DOES CROSS7 RECORD SWITCHED ACCESS FOR BILLING**
4 **PURPOSES?**

5 A. No. There was no need to enable CroSS7 to record switched access traffic for
6 billing purposes or to incur the expense of creating billing records for additional
7 services. This is because access service recording was done by a switch based
8 recording associated with access service trunking. CroSS7 was developed solely
9 to record local traffic that was exchanged with CLECs for billing purposes.

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

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

16 **Q. WHAT ADDITIONAL PROBLEMS WOULD OCCUR IF LEVEL 3 WERE**
17 **ALLOWED TO ROUTE SWITCHED ACCESS TRAFFIC OVER LIS**
18 **TRUNKS?**

19 A. If Level 3 were to route switched access traffic over its local LIS with Qwest,
20 other carriers such as independent companies and other CLECs would view this

1 traffic as phantom traffic because they would not receive the Jointly Provided
2 Switched Access (“JPSA”) records associated with the traffic that Level 3 would
3 be routing over LIS trunks. In other words, CLECs and independent companies
4 that terminate Level 3’s switched access traffic that is routed through Qwest over
5 LIS trunks would not have the ability to bill terminating access charges to
6 Level 3.

7 **Q. DOES THIS TECHNICAL LIMITATION ALSO IMPACT QWEST**
8 **WHOLESALE SWITCHING CUSTOMERS?**

9 A. Absolutely. In fact, the inability for Qwest to provide JPSA records to Qwest
10 Wholesale switching customers is even more profound. This is because Qwest’s
11 Wholesale Switching customers use Qwest switches and the telephone numbers
12 associated with Qwest’s switches. Without Qwest’s ability to record and develop
13 a JPSA record, it is technically impossible for Qwest to provide its Wholesale
14 Switching customers with these records.

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

18 A. Yes.

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

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

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

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

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

4 A. Yes. WilTel's website provided insight to the network and the capabilities that
5 Level 3 has acquired.¹ It states, for example, that the acquisition of WilTel by
6 Level 3 allows "nationwide" origination or "worldwide" termination of switched
7 access traffic. WilTel provides "[a] nationwide Feature Group D deployment and
8 fully redundant SS7 network..."

9 **Q. CAN LEVEL 3 USE THE NETWORK ARCHITECTURE THAT IT NOW**
10 **HAS IN PLACE TO ROUTE BOTH SWITCHED ACCESS AND LOCAL**
11 **TRAFFIC TO QWEST USING FGD TRUNKS?**

12 A. Yes. Level 3 can use the existing transport capacity it has established with Qwest
13 to route both its switched access traffic and local traffic using FGD. All that
14 Level 3 needs to do is convert its LIS trunks to FGD trunks. This would not
15 require changes to Level 3's switch. This conversion would not require a network
16 architecture change that would require a net increase to Level 3's network
17 capacity for the termination of traffic with Qwest. Therefore, Level 3 would
18 merely need to submit an order for Qwest to make this software change. This

¹

Exhibit
http://www.wiltel.com/products/content/voice_services/oneplus.htm

1 conversion would allow Level 3 to route both switched access and local traffic
2 over FGD trunks.

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

5 A. Yes. As a result of the WilTel acquisition, and Level 3's characterization of it, the
6 volume of switched access traffic delivered by Level 3 to Qwest will be
7 substantial. Level 3 will be among the top five users of Qwest's switched access
8 services. The amount of switched access traffic delivered by Level 3 to Qwest
9 dwarfs the amount of non-switched access traffic that is currently sent from Level
10 3 to Qwest.

11 **Q. WHY SHOULD QWEST'S LANGUAGE BE ADOPTED?**

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

1 **V. DISPUTED ISSUE NO. 2C: TRANSIT LIMITATION**

2 **Q. PLEASE EXPLAIN THE TRANSIT LIMITATION ISSUE.**

3 A. Disputed issue 2C concerns Level 3's routing of switched access traffic over LIS
4 trunks. Specifically, Level 3 is proposing to route switched access to other LECs
5 over FGD trunks while at the same time refusing to route similar traffic to Qwest
6 over these same types of FGD trunks.

7 **Q. WHAT LANGUAGE IS QWEST PROPOSING?**

8 A. Qwest proposes the following language:

9 7.2.2.9.3.2 CLEC may combine originating Exchange Service
10 (EAS/Local) traffic, ISP-Bound Traffic, IntraLATA LEC Toll, VoIP
11 Traffic and Switched Access Feature Group D traffic including Jointly
12 Provided Switched Access traffic, on the same Feature Group D trunk
13 group.

14 **Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?**

15 A. Level 3 proposes the following language:

16 7.2.2.3.5 Transit Limitation: For Telephone Toll and IP/TDM (i.e.
17 VoIP) traffic that Level 3 terminates to Qwest, Level 3 agrees to route
18 over the local interconnection trunks only such Telephone Toll and
19 IP/TDM (i.e. VoIP) traffic that would route to NPA-NXX codes homed to
20 Qwest switches.

21 **Q. WHY IS QWEST OPPOSED TO LEVEL 3'S LANGUAGE?**

22 A. Level 3's transit limitation language requires Level 3 to maintain a separate
23 network for traffic that it will send to carriers that subtend Qwest's network. This
24 flies in the face of Level 3's own argument that it is more efficient to maintain a

1 single trunk group type to route local and switched access traffic. In addition,
2 Level 3's language is ambiguous and can be interpreted to allow Level 3 to
3 deliver to Qwest the very traffic that it claims it will not route to Qwest.

4 **Q. ARE THERE TECHNICAL LIMITATIONS THAT LEVEL 3 HAS**
5 **OVERLOOKED IN ITS PROPOSED LANGUAGE ?**

6 A. Yes. Qwest is a wholesale switching provider which allows Qwest former
7 UNE-P customers to continue purchasing wholesale switching from Qwest.
8 These customers receive records from Qwest so that the wholesale switching
9 customer may bill IXCs access charges for traffic that originates and terminates
10 from its customers that are served using Qwest's wholesale switching. Because
11 wholesale switching uses Qwest switches and telephone numbering resources, it
12 is impossible for level 3 to determine what telephone numbers are Qwest's and
13 what telephone numbers are CLEC's that use Qwest's wholesale switching. Thus,
14 Level 3's proposed language will prevent CLECs from switched access for long
15 distance traffic.

16 **Q. HOW DOES LEVEL 3'S TRANSIT LIMITATION LANGUAGE**
17 **CONTRADICT ITS ARGUMENT FOR MAINTAINING A SINGLE**
18 **NETWORK?**

19 A. For Level 3 to comply with the language that it proposes in section 7.2.2.3.5,
20 Level 3 would be required to maintain a separate trunking network for the traffic
21 that is destined for non-Qwest NPA-NXXs. This is the same traffic that would

1 normally be delivered to Qwest's network using FGD trunks. By proposing what
2 it calls "transit limitation" language, Level 3 is expressing its willingness to
3 maintain the very network that it argues is inefficient. It also calls into question
4 Level 3's motivation to route switched access traffic over LIS trunks.

5 **Q. DOES LEVEL 3'S PROPOSED LANGUAGE PREVENT IT FROM**
6 **DELIVERING TO QWEST SWITCHED ACCESS TRAFFIC DESTINED**
7 **FOR INDEPENDENTS AND CLECS?**

8 A. No. To start with, the "transit limitation" provision would be difficult for Qwest
9 to enforce absent the recording capabilities that FGD provides. However, even if
10 Level 3 followed the provision to the letter, there would still be problems
11 associated with switched access traffic destined for independent companies and
12 CLECS. This is so because both end office switches and NPA-NXX's have
13 homing tandem arrangements². Thus, other carriers that interconnect at the same
14 tandems to which Level 3 is interconnected, have their NPA-NXX homing
15 tandem arrangement with Qwest's tandem. Thus, Level 3's language would
16 allow Level 3 to route to Qwest the very traffic for which switched access records
17 are necessary. As I have explained above, traffic routed to Qwest from Level 3
18 that appears to be in compliance with Level 3's proposed language would create

² The Telcordia® Business Integrated Routing/Rating Database System (BIRRDS) USER MANUAL – July, 2005 addresses homing tandems associated with switches and the ATIS CENTRAL OFFICE CODE (NXX) ASSIGNMENT GUIDELINES (COCAG) May, 2006 addresses homing tandems associated with numbering resources i.e. NPA-NXXs.

1 phantom traffic because the other interconnected carriers would not receive
2 jointly provided switched access records associated with the traffic that Level 3
3 would be routing over LIS trunks.

4 **Q. ARE THERE OTHER SITUATIONS WHERE LEVEL 3'S ROUTING**
5 **MAY COMPLY WITH ITS PROPOSED LANGUAGE AND STILL**
6 **RESULT IN PHANTOM TRAFFIC?**

7 A. Yes. Level 3 may route to Qwest all of Qwest NPA NXXs that have been ported
8 to an interconnected carrier. The terminating carriers that have Qwest ported
9 numbers would then receive traffic that would not be accompanied by a billable
10 record. In addition, CLECs that have purchased wholesale switching from Qwest
11 would also not receive the appropriate records to use to bill Level 3 for switched
12 access.

13 **Q. WHY SHOULD QWEST'S LANGUAGE BE ADOPTED?**

14 A. Qwest's language is unambiguous and more appropriately provides Level 3 with
15 the capability to combine traffic on a single trunk group. At the same time,
16 Qwest's language provides for routing and recording of switched access and local
17 traffic that is consistent with the way other IXCs and CLECs route traffic. It is
18 consistent with industry practice and does not require a "one-off" solution
19 developed solely for Level 3. The fact that Qwest's approach has been
20 acceptable to the rest of the industry for years speaks volumes on this issue. The

- 1 creation of phantom traffic is minimized under Qwest's language and is increased
- 2 under Level 3's language.

1 **VI. DISPUTED ISSUE NO. 20: SIGNALING PARAMETERS**

2 **Q. PLEASE EXPLAIN DISPUTED ISSUE NO. 20.**

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

5 **Q. WHAT LANGUAGE IS QWEST PROPOSING?**

6 A. Qwest proposes the following language which is found in the interconnection
7 agreement (“ICA”) filed by Qwest with its Response to Level 3’s Petition :

8 7.3.8 Signaling Parameters: Qwest and CLEC are required to provide
9 each other the proper signaling information (e.g., originating Calling Party
10 Number and destination called party number, etc.) per 47 C.F.R.
11 § 64.1601 to enable each Party to issue bills in a complete and timely
12 fashion. All CCS signaling parameters will be provided including Calling
13 Party Number (CPN), Originating Line Information Parameter (OLIP) on
14 calls to 8XX telephone numbers, calling party category, Charge Number,
15 etc. All privacy indicators will be honored. If either Party fails to provide
16 CPN (valid originating information), and cannot substantiate technical
17 restrictions (i.e., MF signaling) such traffic will be billed as Switched
18 Access. Traffic sent to the other Party without CPN (valid originating
19 information) will be handled in the following manner. The transit
20 provider will be responsible for only its portion of this traffic, which will
21 not exceed more than five percent (5%) of the total Exchange Service
22 (EAS/Local) and IntraLATA LEC Toll traffic delivered to the other Party.
23 The Switch owner will provide to the other Party, upon request,
24 information to demonstrate that Party's portion of no-CPN traffic does not
25 exceed five percent (5%) of the total traffic delivered. The Parties will
26 coordinate and exchange data as necessary to determine the cause of the
27 CPN failure and to assist its correction.

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

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

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

4 With the following sentence:

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

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

10 **Q. WHAT LANGUAGE IS LEVEL 3 PROPOSING?**

11 A. Since Level 3's initial filing of its language Level 3 now proposes new language
12 as follows:

13 7.3.8 Signaling Parameters: Qwest and CLEC are required to provide each
14 other the proper signaling information (e.g., originating Calling Party
15 Number and destination called party number, etc.) per 47 CFR 64.1601 to
16 enable each Party to issue bills in a complete and timely fashion. All CCS
17 signaling parameters will be provided including Calling Party Number
18 ("CPN"), Originating Line Information Parameter (OLIP) on calls to 8XX
19 telephone numbers, calling party category, Charge Number, etc. All
20 privacy indicators will be honored. If either Party fails to provide CPN
21 (valid originating information), and cannot substantiate technical
22 restrictions (e.g. i.e., MF signaling, **IP origination, etc.**) such traffic will
23 be billed as interstate Switched Access. **Excluding VoIP traffic which is**
24 **lawfully originated without CPN,** Traffic sent to the other Party without
25 CPN (valid originating information) will be handled in the following
26 manner. The transit provider will be responsible for only its portion of this
27 traffic, which will not exceed more than five percent (5%) of the total
28 Exchange Service (EAS/Local) and IntraLATA LEC Toll traffic delivered
29 to the other Party. The Switch owner will provide to the other Party, upon
30 request, information to demonstrate that Party's portion of no_CP_N traffic
31 does not exceed five percent (5%) of the total traffic delivered. The Parties
32 will coordinate and exchange data as necessary to determine the cause of
33 the CPN failure and to assist its correction. All Exchange Service
34 (EAS/Local) and IntraLATA LEC Toll calls exchanged without CPN

1 information will be billed as either Exchange Service (EAS/Local) Traffic
2 or IntraLATA LEC Toll Traffic in direct proportion to the minutes of use
3 (MOU) of calls exchanged with CPN information for the preceding
4 quarter, utilizing a PLU factor determined in accordance with Section
5 7.2.2.9.3.2 of this Agreement.

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

7 A. Qwest objects to Level 3's language because it mischaracterizes *IP origination*
8 (emphasis added) as a technical limitation to providing signaling parameters.
9 Qwest further objects to Level 3's language because it inappropriately applies
10 interstate switched access rates onto traffic that is intrastate.

11 **Q. IS IT TRUE THAT VOIP IS A TECHNICAL RESTRICTION FOR**
12 **PROVIDING CALLING PARTY NUMBER ("CPN")?**

13 A. Absolutely not. There is no technical limitation that would prevent Level 3 from
14 populating CPN for VoIP originated traffic. In fact, VoIP traffic is subject to all
15 of the same limitations as any Public Switched Telephone Network ("PSTN")
16 originated call after the Internet Protocol ("IP") to Time Division Multiplexing
17 ("TDM") conversion takes place and the traffic enters the PSTN. All limitations
18 that are identified by Qwest's language apply once the traffic enters the PSTN.
19 Level 3 is attempting to make VoIP traffic more than it really is. It is just a voice
20 call that is routed and transported with a different protocol until the protocol
21 changes at which point it is like any other TDM/PSTN call. As a result, all
22 signaling should be present so that other carriers may appropriately forward
23 information that is passed on by the carrier serving the VoIP provider.

1 **Q. ARE THERE SIGNALING PARAMETERS OTHER THAN CPN THAT**
2 **ARE USED AS VALID ORIGINATING INFORMATION?**

3 A. Yes. Charge Number is also a signaling parameter that is used as valid
4 originating information. Specifically, the Charge Number signaling parameter is
5 used by carriers for the purpose of identifying the appropriate account for billing.
6 In addition, carriers also use the Charge Number parameter for determining
7 jurisdiction for intercarrier compensation. Using the Charge Number for
8 jurisdictional purposes allows for a carrier to associate a single jurisdiction to a
9 service that the carrier provides to its customer. For example, a carrier may
10 provide its customers with the ability to establish multiple station numbers with a
11 service. These station numbers are typically used at same location such as a call
12 center. All calls that are made from the call center fall under the same
13 jurisdiction. Thus the Charge Number may be used by other carriers to identify
14 the jurisdiction of all calls made by the call center employees. VoIP providers are
15 served in the same way. A charge number that is used for the VoIP provider
16 identifies the VoIP provider's location. The VoIP end users are the station
17 numbers that are provided by the VoIP provider to its internet VoIP customers.

18 **Q. CAN THE CHARGE NUMBER INFORMATION BE INFLUENCED BY**
19 **IP ORIGINATION?**

20 A. No. The Charge Number parameter is a signaling parameter used by carriers and
21 between carriers. IP origination has no influence on the charge number

1 parameter. Thus there is no reason for Level 3 to insist that IP origination is a
2 limitation for valid originating information.

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

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

8 **Q. WHY IS QWEST’S LANGUAGE MORE APPROPRIATE?**

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

1

VII. DISPUTED ISSUE: QUAD LINKS2 **Q. PLEASE EXPLAIN THE MEET POINT SIGNALING ISSUE.**

3 A. The parties previously agreed to the language for section 7.2.2.6.1 of the
4 Agreement concerning signaling. Level 3 is now proposing language that could
5 be interpreted to impose signaling obligations beyond those that Qwest is required
6 by law to provide. The agreed to section 7.2.2.6.1 allows Level 3 obtain signaling
7 from Qwest through the tariff offering that Qwest provides to other carriers.

8

9 **Q. WHAT LANGUAGE IS QWEST PROPOSING?**

10 A. What language did the parties agree to:

11 7.2.2.6.1 SS7 Out-of-Band Signaling. SS7 out-of-band signaling is
12 available for LIS trunks. SS7 out-of-band signaling must be requested on
13 the order for new LIS trunks. Common Channel Signaling Access
14 Capability Service may be obtained through the following options: (a) as
15 set forth in this Agreement at Section 9.6 or 9.13; (b) as defined in the
16 FCC Tariff # 1; or (c) from a third party signaling provider. Each of the
17 Parties, Qwest and CLEC, will provide for Interconnection of their
18 signaling network for the mutual exchange of signaling information in
19 accordance with the industry standards as described in Telcordia
20 documents, including but not limited to GR-905 CORE, GR-954 CORE,
21 GR-394 CORE and Qwest Technical Publication 77342.

22 **Q. WHAT NEW LANGUAGE IS LEVEL 3 PROPOSING?**

23 A. Level 3 proposes the following language:

24

25 7.2.2.6.1.1 Either party may choose to provide its own SS7 signaling
26 (via a single set of Quad Links) for its facility-based services, or to the
27 extent available, it may purchase SS7 signaling from the other party under

1 the terms and conditions of that party's tariff offering. Alternatively, either
2 party may choose to obtain SS7 signaling from a third-party provider.

3 7.2.2.6.1.2 In the event that LEVEL 3 constructs Quad Links, the point
4 at which Level 3's single set of Quad Links physically link to Qwest's
5 STP shall establish a meet point demarcating each Party's respective legal
6 and financial responsibilities for their respective network and traffic
7 exchanged between those networks.

8 7.2.2.6.1.3 To the extent that Qwest and Level 3 establish a mid-span
9 meet or alternative form of establishing physical linking of SS7 Quad
10 links, they will negotiate mutually agreeable terms and conditions for the
11 apportioning facilities costs.

12 **Q. DOES QWEST PROVIDE NON-DISCRIMINATORY SIGNALING**
13 **CAPABILITIES TO LEVEL 3?**

14 A. Yes. Qwest provides signaling to Level 3 in the same manner that Qwest
15 provides signaling to other carriers that request SS7 signaling functionality. In the
16 past, Qwest has provided signaling through its tariffs as well as through its
17 unbundling obligations. Upon decisions made in the Triennial Review³ and the

³ Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978, ¶ 545 (2003). ("We conclude that, in the last several years, the market for signaling networks has matured. The record reflects that multiple alternative providers are available to provide rival signaling services to competitive LECs.¹⁶⁷² Accordingly, we conclude that, as a general matter, competitive LECs are no longer impaired without access to the incumbent LECs' signaling networks as a UNE. In performing our impairment analysis, we consider whether barriers exist for a competitive LEC to serve customers through either deploying its own signaling network or by purchasing signaling from alternative providers to the incumbent LEC. We determine that no such barriers exist. A review of our record reveals that there are numerous competitive suppliers of signaling services, such as Illuminet, TSI, Southern New England Telephone, AT&T, WorldCom and Sprint,¹⁶⁷³ all of which are actively providing

1 Triennial Review Remand Order,⁴ Qwest is no longer obligated to “unbundle” its

signaling services to competitive LECs on a commercial basis. For instance, Illuminet, which owns the largest signaling network in the United States that is unaffiliated with an incumbent LEC, has access to all of the LATAs of the BOCs and major independent LECs, operates 14 STP pairs, and provides signaling to competitive carriers on a national scope.¹⁶⁷⁴ Similarly, TSI provides a nationwide signaling service that offers SS7 access to and from nearly all LATAs within the United States.¹⁶⁷⁵ There are also regional SS7 options for competitive carriers. Sprint, for example, operates a regional SS7 network, which contains ten pairs of regional STPs and one national STP pair that serves Sprint customers in 18 states.¹⁶⁷⁶ ICG also offers a regional SS7 service, which is available from over thirty cities via ICG’s regional STP access hub nodes.¹⁶⁷⁷ Indeed, there is evidence in the record that many competitive LECs are using alternative providers for most or all of their signaling needs.¹⁶⁷⁸ There is also evidence of self-deployment of SS7 network capabilities by competitive carriers, such as TimeWarner Telecom and NewSouth. We find, therefore, that for competitive carriers deploying their own switches, there are no barriers to obtaining signaling or self-provisioning signaling capabilities and we do not require incumbent LECs to continue offering access to signaling as a UNE under section 251(c)(3) of the Act.”).

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⁴ Order on Remand, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Dkt. Nos. WC 04-313/CC 01-338, FCC 04-290, ¶ 227, footnote 627 (February 4, 2005) (“The requesting carrier shall continue to have access to shared transport, signaling, and call-related databases as provided in the *Triennial Review Order* for those arrangements relying on unbundled local circuit switching that have not yet been converted to alternative arrangements. *Triennial Review Order*, 18 FCC Rcd at 17319-20, 17323-34, paras. 533-34, 542-60. We note that TSI’s petition for reconsideration of the *Triennial Review Order* that requests that the Commission find signaling elements to be competitively available either through third party providers or through self-provisioning and that competitive LECs do not need mandatory access to signaling was not timely filed. TSI Telecommunications Services, Inc. Petition for Reconsideration, CC Docket No. 01-338 (filed Oct. 3, 2003). In any event, even if we were to consider TSI’s petition, because we otherwise generally eliminate unbundled switching, and with it unbundled access to signaling, we dismiss that petition as moot.”).

1 signaling network. However, Qwest still offers its tariff signaling services that
2 allows any carrier or signaling provider to obtain access to Qwest's signaling
3 network. Qwest's signaling tariff provides signaling for both local and non-local
4 traffic that terminates to or originates from Qwest. Qwest's tariff does not require
5 separate signaling connections for local and non-local traffic. Qwest's signaling
6 tariff also allows for transient signaling messages so that carriers may transmit
7 signaling messages to other carriers for calls that do not terminate or originate on
8 Qwest's network. It is unclear why Level 3 has raised quad links as an issue in
9 this arbitration.

10 **Q. WHAT PROBLEMS DOES QWEST HAVE WITH LEVEL 3'S**
11 **PROPOSAL?**

12 A. Qwest has 3 specific problems with Level 3's language. First the language that
13 Level 3 has provided in section 7.2.2.6.1.1 is completely duplicative of the agreed
14 to language in section 7.2.2.6.1. Second, Level 3's proposed section 7.2.2.6.1.2
15 could be interpreted to obligate Qwest to develop a unique signaling service
16 specifically for Level 3. Third, Level 3's proposed section 7.2.2.6.1.3 could be
17 interpreted to obligate Qwest to build signaling facilities where Qwest is not
18 lawfully obligated to do so.

1 **Q. IN WHAT WAYS IS LEVEL 3'S PROPOSED SECTION 7.2.2.6.1.1**
2 **DUPLICATIVE OF THE AGREED TO SECTION 7.2.2.6.1?**

3 A. First, the agreed to Section 7.2.2.6.1 does not prohibit Level 3 from providing its
4 own signaling. Second, Qwest's subpart (b) provides that Qwest provides
5 signaling pursuant to its FCC Tariff # 1. Third, subpart (c) permits Level 3 to
6 obtain signaling from a third party. Finally, Level 3 has never been prohibited
7 from using a single quad set of signaling links. In fact, the Telcordia documents
8 identified in Qwest's language explain the requirements for interconnecting
9 signaling networks. These Telcordia documents do not require anything more
10 than a single quad set of signaling links. In addition, Qwest's technical
11 publication is consistent with Telcordia documentation in that it also does not
12 require more than a single quad set of signaling links. It is completely unclear
13 why Level 3 has taken issue with Qwest's SS7 signaling provisions of the ICA.

14 **Q. WHAT LANGUAGE IN SECTION 7.2.2.6.1.2 COULD BE INTERPRETED**
15 **TO OBLIGATE QWEST TO DEVELOP A UNIQUE SIGNALING**
16 **SERVICE SPECIFICALLY FOR LEVEL 3?**

17 A. Level 3's proposed section 7.2.2.6.1.2 implies that Qwest must provide a meet
18 point signaling capability that is not required by the FCC⁵ and is not provided
19 through Qwest's tariff.

⁵ FCC 04-290; Part 51 of Title 47 of the Code of Federal Regulations: § 51.319

1 **Q. WHAT LANGUAGE IN SECTIONS 7.2.2.6.1.2 AND 7.2.2.6.1.3 CAN BE**
2 **INTERPRETED TO OBLIGATE QWEST TO BUILD FACILITIES?**

3 A. Level 3's proposed sections 7.2.2.6.1.2 and 7.2.2.6.1.3 require Level 3 to establish
4 a meet point arrangement with Qwest for signaling. This type of arrangement can
5 be interpreted to require Qwest to build facilities in order to meet Level 3's
6 unlawful requirement. This type of requirement is not provided to other carriers
7 and is not a capability provided by Qwest's tariff.

1

VIII. SUMMARY/CONCLUSION2 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

3 A. The issues of my testimony revolve around four issues: (1) call rating based on
4 the location of Level 3's POI; (2) the types of traffic that may be combined on
5 interconnection trunks; (3) if IP origination is a limitation for providing; and (4)
6 the provisioning of SS7 quad links.

7 Level 3's use of its POI for the basis of call rating would result in a dramatic
8 change in call rating. Carrier POIs are locations where traffic is exchanged and
9 are not determinative of the rate that applies to the traffic that is exchanged at the
10 POIs. Level 3 also inappropriately proposes that Qwest provide Level 3
11 interconnection facilities at no cost to Level 3. The FCC contemplated the
12 provisioning of interconnection facilities to CLECs and provided for the
13 appropriate compensation for providing such services.

14 As to the types of traffic that can be carried on interconnection trunk groups,
15 Qwest has attempted to be responsive to Level 3's desire to combine traffic on
16 trunk groups. Qwest is willing to allow all traffic types, with the exception of
17 switched access traffic, to be carried over LIS trunks. Because of billing issues,
18 systems issues and Qwest's obligation to provide jointly provided switched access
19 records to other ILECs and CLECs, Qwest requires that switched access traffic be
20 carried over Feature Group trunks. Nonetheless, Qwest has attempted to
21 accommodate Level 3's desire for network efficiencies by agreeing to let Level 3

1 combine all of its traffic over FGD trunks. This solution achieves the efficiencies
2 sought by Level 3 while at the same time allowing Qwest to continue to use its
3 existing billing systems and processes. For these reasons, Level 3's proposed
4 combining of traffic on LIS trunks should be rejected.

5 Although there are some technical limitations in some cases that prohibit the
6 identification of the origination of a call, limitations for providing originating
7 calling information is neither increased nor decreased based on IP origination.

8 Finally, since the release of the FCC's Triennial Review Order and the Triennial
9 Review Remand Order, Qwest has been relieved of providing signaling beyond
10 the service Qwest provides in its tariff. Qwest's tariff does not allow for the
11 architecture that Level 3 is attempting to force onto Qwest. As is seen in Qwest's
12 language, signaling is provided by Qwest without any artificial requirements to
13 establish any more than a single quad link set as is supported by the industry
14 standards referenced by Qwest. Qwest does provide Level 3 signaling and
15 provides it in the same manor that it provides signaling to other carriers and
16 signaling providers.

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

18 **A.** Yes it does.