

September 16, 2005

VIA ELECTRONIC MAIL AND US MAIL

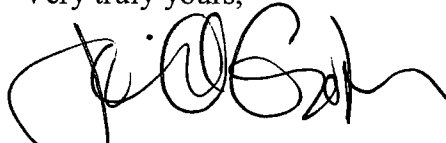
Filing Center  
Oregon Public Utility Commission  
550 Capitol Street NE #215  
PO Box 2148  
Salem, OR 97308-2148

Re: ARB 665 – Supplemental Rebuttal Testimony of Rogier Ducloo on Behalf of  
Level 3 Communications, LLC

Dear Sir or Madam:

Enclosed for filing in the above-referenced docket is Supplemental Rebuttal Testimony of Rogier Ducloo on Behalf of Level 3 Communications, LLC. Please contact me with any questions.

Very truly yours,



Jessica A. Gorham

Enclosures

cc: ARB 665 Service List


**CERTIFICATE OF SERVICE  
ARB 665**

I hereby certify that a true and correct copy of **SUPPLEMENTAL REBUTTAL TESTIMONY OF ROGIER DUCLOO ON BEHALF OF LEVEL 3 COMMUNICATIONS, LLC** was served via U.S. Mail on the following parties on September 16, 2005:

Thomas Dethlefs  
Qwest Corporation  
1801 California Street Suite 900  
Denver CO 80202

Alex M. Duarte  
Qwest Corporation  
Suite 810  
421 SW Oak Street  
Portland OR 97204

ATER WYNNE, LLP

  
\_\_\_\_\_  
Jessica A. Gorham

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON  
ARB 665**

In the Matter of

LEVEL 3 COMMUNICATIONS, INC'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

**SUPPLEMENTAL REBUTTAL TESTIMONY OF ROGIER R. DUCLOO  
ON BEHALF OF LEVEL 3 COMMUNICATIONS, LLC**

**September 16, 2005**

1 **Q. In terms of how Qwest or its affiliates design their network to provide newer types**  
2 **of services like VoIP and ISP traffic, what observations have you made based on**  
3 **Qwest’s supplemental responses to Level 3’s data requests?**

4 **A.** Qwest’s responses confirmed what I would have presumed to be the case: while Qwest is  
5 trying to force Level 3 to conform its network to the “old” Qwest ILEC network  
6 structure, Qwest’s affiliates, QCC and Interprise, choose to organize their own networks  
7 very differently. For example, in its Supplemental Response to Level 3 Data Request 3,  
8 Qwest makes two relevant statements:

9 First, in subpart (b) Level 3 asked: “Please list each local calling area within the  
10 state in which Qwest maintains a physical presence as defined by Qwest in Section 4 –  
11 Definitions VNXX Issue (Issue No. 3 B) of the parties’ interconnection agreement.”  
12 Qwest responded by providing a list of rate centers in which QCC offers its wholesale  
13 dial platform in Oregon. Qwest also stated that it meets its own definition of “physical  
14 presence” QCC purchases “PRIs” in each local calling area where it offers wholesale dial  
15 platform to ISPs in Oregon. *See Confidential Exhibit Level 3/601, Ducloo/1-5 (Qwest’s*  
16 *Third Supplemental Response to Level 3 Data Request 3 with attachments).*

17 Qwest’s response to Data Request 3 is inconsistent with Qwest’s own explanation  
18 of its network architecture, as shown in a presentation to investors. As part of its  
19 presentation, Qwest included the chart attached as Exhibit Level 3/602, Ducloo/1, which  
20 shows Qwest’s in-region and out-of-region deployment. As you can see from reviewing  
21 it, Qwest’s use of “VoIP POPs” out of region mirrors what competitors would provide  
22 within Qwest’s region. In other words, where Qwest does not have the advantage of  
23 being the incumbent LEC, it adopts exactly the same sort of network architecture that  
24 Level 3 uses. Even where Qwest claims its affiliates purchase retail PRI services from  
25 Qwest (which services are indistinguishable from Level 3’s tariffed DID services), the  
26 transaction is one between subsidiaries of the same corporate parent and thus a wash

1 transaction. See Qwest's Supplemental Response to Level 3 Data Request 6, dated  
2 August 31, 2005, attached as Exhibit Level 3/603, Ducloo/1-2. The effect would be far  
3 different with regard to Level 3.

4 Second, in its response to subpart 3(a), Qwest stated that *none* of its affiliates  
5 adopt the sort of architecture that Qwest would impose upon Level 3: "No Qwest affiliate  
6 has collocated modem banks, DSL equipment, routers, and ATM switches in Qwest  
7 Corporation end offices in Oregon." See Exhibit Level 3/601, Ducloo/1.

8 In a modern communications network, fewer and more distant physical points of  
9 presence make sense because transport is extremely inexpensive. Qwest's own use of an  
10 architecture similar to Level 3's in areas where Qwest is not the incumbent carrier is why  
11 Level 3 finds it so objectionable that Qwest wants Level 3 to either expend the resources  
12 to establish more numerous, less dispersed points of presence or to pay exceedingly high  
13 access or special access rates for transport. Qwest's approach is discriminatory because  
14 QCC competes directly with Level 3 for these services in Oregon.

15 **Q. What is the cost to Qwest of transport to a more distant point of presence?**

16 **A.** I'll give you an example relevant to this case. Qwest wants Level 3 to create a point of  
17 interconnection in each local calling area ("LCA"). Level 3 argues that it has the right to  
18 have a single POI per LATA, both as a physical and financial demarcation point. Aside  
19 from the potential for discrimination in Qwest's proposal, the incremental cost to Qwest  
20 of carrying traffic originated by its own customers to a single POI per LATA is  
21 miniscule.

22 Looking just at LATA 672, which includes Portland, I can demonstrate the  
23 difference in transport costs between Qwest providing transport within a LCA and  
24 providing transport to a single POI at the LATA tandem in Portland. Take a DS-3  
25 transport facility, for example. It contains 672 voice (DS-0) channels. In all, a DS-3  
26 interoffice trunk can carry approximately 29 million minutes of traffic per month. To be

1 conservative, however, assume a 50% fill factor, and use 14.5 million minutes. As the  
2 workpaper attached as Exhibit Level 3/604, Ducloo/1 indicates, the average additional  
3 increment of transport from the LCA to the Portland LATA tandem is 26.89 miles.  
4 Dividing Qwest's currently-tariffed switched access DS-3 mileage rate element of \$14.27  
5 by 14.5 million minutes and multiplying by the additional miles, the incremental per-  
6 minute cost is only \$0.000026 – *i.e.*, 26 ten-thousandths of a cent.

7 In other words, there is virtually no incremental cost incurred by Qwest to comply  
8 with the requirement to interconnect and exchange traffic with Level 3 at a single POI per  
9 LATA as opposed to a POI per LCA. The actual math only underscores why Qwest's  
10 affiliates likely have used a "limited presence–more transport" model for their network.

11 **Q. Besides Qwest's responses to Data Request 3, is there any other indication that**  
12 **Qwest acknowledges that the "limited presence–more transport" model is**  
13 **appropriate?**

14 **A.** Yes. in 1999, William Taylor filed an ex parte with the FCC on behalf of Qwest in the  
15 ISP Remand docket. In paragraph 19 of that paper, Taylor and his team note that

16 ISPs can place their equipment in high-density, central business  
17 locations... Transport costs for such calls will be lower than for an  
18 average of all traffic terminating within the local exchange.

19 *See* Exhibit Level 3/605, Ducloo/1-4. At the time, Qwest was trying to convince the FCC  
20 to eliminate reciprocal compensation for ISP-bound traffic. Of course the FCC – fully  
21 aware of these concerns – nonetheless established a reciprocal compensation regime at  
22 \$.0007. Qwest, or at least QCC, appears to understand the point Taylor was making:  
23 QCC has placed its facilities only in the higher density locations in Oregon and takes  
24 advantage of the minimal transport costs. All Level 3 seeks here is to do the same.  
25  
26

1 **Q. So if the FCC established reciprocal compensation despite Qwest expressing these**  
2 **concerns, what is Qwest's argument?**

3 **A.** Well, that is an interesting question because in the ex parte I discuss above, Qwest was  
4 seeking a bill and keep regime, but based on the answers they have provided that the ISP  
5 and VoIP services they have available are all access-based, it appears what they really  
6 want is to force Level 3 or its customers to pay access charges. As I understand the ISP  
7 Remand Order, it did carve out an exception that allowed state bill and keep regimes to  
8 stand, but to take advantage of that exception, Qwest would have to adopt "mirroring"—  
9 that is, they would have to adopt bill and keep for all traffic exchanged with us. This  
10 would likely be beneficial to Level 3 when it comes to VoIP traffic, for example. The  
11 rule merely requires consistency in how Qwest treats Level 3.

12 **Q. Are there any other matters that you would like to address?**

13 **A.** Yes. I am adopting the direct testimony of Ron Vidal (Exhibit Level 3/100, Vidal/1-17).

14 **Q. Does this conclude your testimony?**

15 **A.** Yes.  
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QWEST CORPORATION

DOCKET: ARB 665  
INTERVENOR: Level 3 Communications, Inc.  
REQUEST NO: L3CI 01-003IS3

REQUEST:

Does Qwest offer Internet access services in the state? If so, how many end user customers and how many wholesale customers in the state does Qwest have?

- a. Please identify each telephone company end office in the state in which Qwest has collocated equipment such as modem banks, DSL equipment, routers, ATM switches, or other equipment. Please identify the telephone company that owns/operates each such end office.
- b. Please list each local calling area within the state in which Qwest maintains a physical presence as defined by Qwest in Section 4 - Definitions VNXX Traffic (Issue No. 3B) of the Parties' interconnection agreement.

RESPONSE:

Qwest objects to the request that it "state the number of end user and wholesale customers in the state for each Qwest ISP affiliate" on the basis that the information requested constitutes a trade or business secret and is highly confidential and proprietary. Qwest further objects that the information requested is not relevant and that it does not appear the request is reasonably calculated to lead to the discovery of admissible evidence.

**SUPPLEMENTAL RESPONSE DATED 07/08/05:**

Without waiving its objections, Qwest responds that two of its affiliates offer Internet access services in Oregon: Qwest Communications Corporation and Qwest Enterprise America, Inc.

Respondent: Mary LaFave

**SUPPLEMENTAL RESPONSE DATED 08/31/05:**

Qwest assumes that the reference to "Qwest" in this question refers not only to Qwest Corporation, the party to this arbitration proceeding, but also to Qwest affiliates. Assuming this is so, Qwest responds as follows: Yes. See Confidential Attachment A.

- a. Qwest Corporation does not provide Internet access (i.e., ISP service) to end users, nor does it collocate in its own end offices. Therefore, Qwest interprets this subpart as relating to Qwest affiliates. No Qwest affiliate has collocated modem banks, DSL equipment, routers, and ATM switches in Qwest Corporation end offices in Oregon.

Respondent: Daniel Collins, Staff Advocate

- b. Qwest is working to gather the information responsive to this request and will provide it as soon as it is available.

Respondent: Mary LaFave

**SUPPLEMENTAL RESPONSE DATED 09/07/05:**

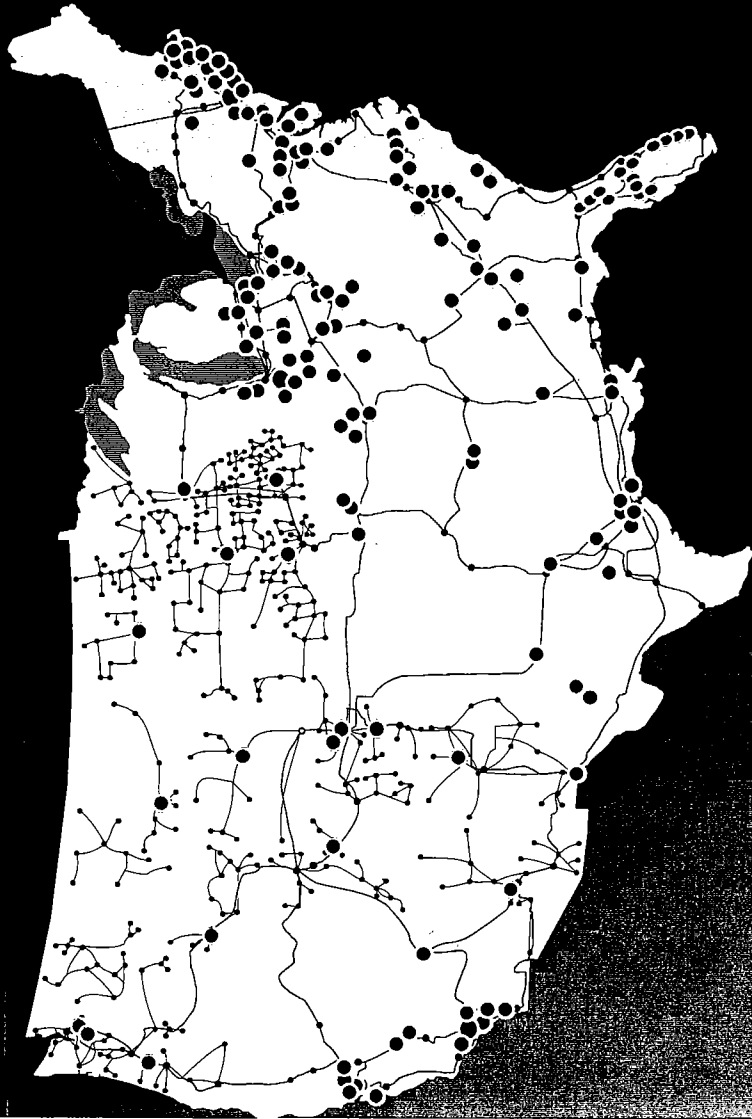
- b. Confidential Attachment B lists every rate center in Oregon in which QCC offers its wholesale dial platform to ISPs. QCC purchases PRIs in each local calling area (which may contain multiple rate centers) which terminate in a manner that meets the physical presence requirement as defined by Qwest in



Section 4 of Qwest's proposed changes to the Parties' interconnection agreement.

Respondent: Mary LaFave

# Growing success in VoIP, Hosting and Managed Services



- Qwest POPs
- VoIP Deployed Cities
- Qwest Central Offices

## VoIP

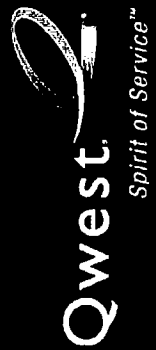
- Qwest has carried VoIP traffic across our long haul network since 2001
- Currently carrying 2.3 billion minutes of VoIP a month
- Business VoIP launched in 250 cities

## Hosting and Managed Services

- Increasing capacity in select centers
- Migration from collocation to managed services
- Customers include IRS, Ebay, US Mint, Department of Treasury

## Enhanced Business Protection Services

- Complete business continuity and disaster recovery solution



QWEST CORPORATION

DOCKET: ARB 665  
INTERVENOR: Level 3 Communications, Inc.  
REQUEST NO: L3CI 01-006IS1

REQUEST:

Does Qwest offer Voice over Internet Protocol ("VoIP") to end users in this state? If so:

- a. Please identify the specific entity that offers the service and explain that entity's relationship to Qwest;
- b. Please state the number of retail customers ("retail" in the sense that the customers uses the service for his/her personal communications needs) and how many wholesale customers ("wholesale" in the sense that an ESP or carrier purchases this service from Qwest and sells to other customers) Qwest has in the state;
- c. Please list each local calling area within the state in which Qwest maintains a physical presence as defined by Qwest in Section 4 - Definitions VNXX Traffic Issue (Issue No. 3 B) of the Parties' interconnection agreement;
- d. Please identify each telephone company end office in the state in which Qwest has collocated equipment such as media gateways, DSL equipment, routers, ATM switches, or any other related equipment necessary for providing VoIP service. Please identify the telephone company that owns/operates each such end office; and
- e. Does Qwest purchases any wholesale VoIP services from any other provider? If so, name the provider, the services purchased, and the states in which such service is purchased.

RESPONSE:

- a. Qwest is preparing a response to this subpart that will be served as soon as it is completed.
- b. Qwest objects to this subpart on the basis that the information requested constitutes a trade or business secret and is highly confidential and proprietary. Qwest further objects that the information requested is not relevant and is not reasonably calculated to lead to the discovery of admissible evidence.
- c. Qwest is preparing a response to this subpart that will be served as soon as it is completed.
- d. Qwest objects to this subpart to the extent that it seeks information concerning Qwest's affiliates' network configurations in territory not served by Qwest as the incumbent LEC.
- e. Qwest objects to this subpart to the extent that it seeks information concerning Qwest's purchases of services outside the state of Oregon and outside the 14-state territory in which Qwest operates as an incumbent LEC. This request is overly broad and burdensome and seeks information that is irrelevant. Furthermore, the subpart is not reasonably calculated to lead to the discovery of admissible evidence.

SUPPLEMENTAL RESPONSE DATED 08/31/05:

- a. Qwest Communications Corporation (QCC) offers VoIP in the state of

Oregon. QCC is an affiliate of QC, both of which are owned by Qwest Services Corporation.

b. Currently, QCC has 7 retail customers in Oregon who purchase VoIP services and no wholesale customers.

c. Bend, Clackamas, Corvallis, Eugene, Gresham, Hood River, Medford, Newberg, Portland, Sherwood, The Dalles

d. Qwest objects to this subpart to the extent that it seeks information concerning Qwest's affiliates' network configurations in territory not served by Qwest as the incumbent LEC.

Without waiver of this objection, Qwest responds, QCC, as a provider of VoIP, operates as an Enhanced Service Provider (ESP); accordingly, it does not collocate any equipment in a Qwest central office or any other central office of a local exchange carrier in Oregon.

e. No.

Respondent: Mary LaFave

421,182	Access Lines in Portland LCA		
1,002,286	Access Lines in LATA 672		
06799	POI V-Coord	PTLDOR69	
08915	POI H-Coord	PTLDOR69	
3.13	LCA Weighted Total Mileage		
30.02	LATA Weighted Total Mileage		
26.89	Mileage Difference		
\$14.27	DS3 Per Mile Rate (Telric Per Mile 25 - 50 Miles)		
14,500,000	MOUs supported by a DS3 in a Month		
0.000026	Cost per MOU to extend past LCA to LATA		

U S WEST, Inc.  
1020 Nineteenth Street NW Suite 700  
Washington, DC 20036  
202 429-3120  
Fax: 202 293-0561

Melissa Newman  
Vice President - Regulatory Affairs

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DEC 2 1999

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

USWEST

EX PARTE OR LATE FILED

December 2, 1999

EX PARTE

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 - 12<sup>th</sup> Street, SW, TW-A325  
Washington, DC 20554

Re: CC Docket No. 99-68

Dear Ms. Salas:

On Wednesday, December 2, 1999, Bob Taylor, Mark Hollings and the undersigned, representing U S WEST, met with Howard Shelanski, Yog Varma, Jane Jackson, Rodney McDonald, Deena Shetler, and Tamara Preiss to discuss the above-referenced proceeding. The attached material was distributed at the meeting and served as the basis of the discussion.

In accordance with Section 1.1206(b)(2) of the Commission's rules, an original and one copy of this letter and attachment are being filed with your office for inclusion in the public record of this proceeding.

Acknowledgment and date of receipt of this submission are requested. A duplicate of this letter is attached for this purpose.

Sincerely,

Melissa Newman

Attachments

- cc: Howard Shelanski
- Yog Varma
- Jane Jackson
- Rodney Mc Donald
- Deena Shetler
- Tamara Preiss

No. of Copies Made 0+1  
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**ner/a**  
Consulting Economists

**AN ECONOMIC AND POLICY ANALYSIS OF EFFICIENT  
INTERCARRIER COMPENSATION MECHANISMS FOR ISP-BOUND TRAFFIC**

**William E. Taylor, Agustin Ros and Aniruddha Banerjee  
National Economic Research Associates, Inc.  
One Main Street  
Cambridge, MA 02142**

**December 1, 1999**

## AN ECONOMIC AND POLICY ANALYSIS OF EFFICIENT INTERCARRIER COMPENSATION MECHANISMS FOR ISP-BOUND TRAFFIC

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### I. INTRODUCTION

1. The emergence and rapid progress of the information age is having a profound impact on our economic, social, and political environment.<sup>1</sup> As we approach the turn of the millennium, there is no better testament to the transformation occurring than the increasingly important role the Internet is having in the daily lives of more and more people and institutions. Businesses are using the power of the Internet to reduce costs and improve overall operating efficiencies.<sup>2</sup> Individuals are finding that the Internet offers vast opportunities to obtain important information that can be used to make better-informed decisions on a host of market and non-market activities (i.e., advance career objectives and minimize expenditures on leisure activities). By reducing the cost of information to both producers and consumers, the Internet is reducing the losses in economic efficiency that result from market failure due to asymmetric information. The potential benefits from the continued growth of the information economy are enormous.
2. In order that the economy may reap the full potential of the Internet, public policy regarding the Internet must be consistent with, and lead to, the achievement of economic efficiency. In the long run, only policies that are consistent with economic efficiency provide the opportunity to achieve lower costs, lower prices, and new and innovative services. Moreover, because the market is now poised to provide these benefits without a jump-start from outside sources of subsidy, it is also important to minimize unintended distortions to competition elsewhere and, in particular, to local exchange competition. Finally, the

---

<sup>1</sup> The growth of the Internet in recent years—in terms of both volume and content—has been nothing short of astonishing. The conventional wisdom is that the Internet “doubles” every year, a rate of growth that is unprecedented in virtually every other sphere of economic activity.

<sup>2</sup> For example, businesses are using the Internet to reduce the costs of their inputs, exchange inventory information with crucial suppliers in real time with minimal administrative and transaction costs, and seek out new market opportunities.



component of both types of calls were the same, the *per minute* cost of the average ISP-bound call would still end up being considerably less than that for the average voice call. A simple numerical example illustrates this fact.

18. Suppose the incremental cost for each minute is  $0.5\text{¢}$ . Then, a 3-minute call would have a total incremental cost of  $3 \times 0.5 = 1.5\text{¢}$  and a 20-minute call would have a total incremental cost of  $20 \times 0.5 = 10\text{¢}$ . Suppose the fixed cost of call setup—which does not vary with the length of the call—is  $2\text{¢}$ . Then the *total* cost of the 3-minute call (inclusive of call setup) would be  $1.5 + 2 = 3.5\text{¢}$ , and that for the 20-minute call would be  $10 + 2 = 12\text{¢}$ . To figure what each call costs on a per-minute basis, simply divide the total cost of each by the respective number of minutes. Thus, the 3-minute call would cost  $3.5 \div 3 = 1.66\text{¢}$  per minute and the 20-minute call would cost  $12 \div 20 = 1.2\text{¢}$  per minute. That is, as the call duration increases, the cost per minute would fall.
19. In addition, the incremental cost for the two types of calls may differ. The incremental cost of the local call is normally the basis for an ILEC's termination rate. Yet that rate is itself a composite that reflects how the cost of local calls varies among different types of customers and customer locations. Unlike CLECs, ILECs must be prepared to provide local service to any or all such customers, regardless of their usage or location. In contrast, the incremental cost of an ISP-bound call does *not* reflect such a composite. ISPs can place their equipment in high-density, central business locations and frequently can collocate equipment in the CLEC's switch. Transport costs for such calls will be lower than for an average of all traffic terminating within the local exchange.
20. As a result, the per-minute *incremental* cost of carrying traffic to particular end-users can vary a great deal, depending upon their location and the characteristics of the traffic. And, as explained earlier, because of average call durations, the *full* per-minute cost of carrying calls (inclusive of both incremental and fixed costs) is typically higher for averaged voice traffic than for ISP-bound traffic alone.