ATERWYNNE LLP
ATTORNEYS AT LAW

Suite 1800
222 S.W. Columbia
Portland, OR 97201-6618
503-226-1191
Fax 503-226-0079
www.aterwynne.com

May 11, 2006

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/IC 12 – Level 3 Communications, LLC's Corrected Supplemental Technical Testimony

Dear Sir or Madam:

Enclosed for filing in the above-referenced dockets is Corrected Supplemental Technical Testimony of Kenneth L. Wilson and Mack Greene on Behalf of Level 3 Communications, LLC., which will replace the previously-filed versions of Mr. Green's and Mr. Wilson's testimony. Please note that certain exhibits to Mr. Greene's Testimony (Level 3/703-712, 714, and 715) are confidential and will not be submitted electronically. Please contact me with any questions.

Very truly yours,

Jessica A. Gorham

Enclosures

cc: ARB 665 Service List
IC 12 Service List

CERTIFICATE OF SERVICE
ARB 665/IC 12

I hereby certify that a true and correct copy of **LEVEL 3 COMMUNICATIONS, LLC'S CORRECTED SUPPLEMENTAL TESTIMONY** was served via U.S. Mail on the following parties on May 11, 2006:

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

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

Jeffrey Nodland
Qwest Corporation
10th Floor
1801 California Street
Denver, CO 80202

ATER WYNNE, LLP

Jessica A. Gorham

BEFORE THE

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	ARB 665
In the Matter of QWEST CORPORATION, Complainant v. LEVEL 3 COMMUNICATIONS, LLC, Defendant Complaint for Enforcement of Interconnection Agreement	IC 12

Supplemental Technical Testimony of Kenneth L. Wilson

On Behalf of Level (3) Communications, LLC

May 10, 2006

Q. PLEASE STATE YOUR NAME, POSITION, EMPLOYER, AND BUSINESS ADDRESS.

A. My name is Kenneth L. Wilson. I am a Senior Consultant and Technical Witness with Boulder Telecommunications Consultants, LLC. My business address is 970 11th Street, Boulder, Colorado, 80302. I am filing this testimony on behalf of Level 3 Communications, LLC of Broomfield, CO.

Q. PLEASE REVIEW YOUR EDUCATION AND RELEVANT WORK EXPERIENCE.

A. I am currently a Senior Consultant and Expert Witness with Boulder Telecommunications Consultants, LLC. During the past eight years I have participated as a witness and consultant in over sixty proceedings involving various aspects of the Telecom Act of 1996. In these proceedings I testified on all types of Unbundled Network Elements (UNEs), interconnection trunks, collocation, resale, advanced services and operational support systems. I have also testified in several anti-trust cases and in other regulatory and judicial matters involving telecommunications. From 1995 through spring 1998, I was the Business Management Director for AT&T in Denver, managing one of the groups responsible for getting AT&T into the local market in the QWEST states. My primary responsibility was as the lead negotiator for AT&T with QWEST in the 14 QWEST states. I was also the senior technical manager in Denver, leading teams working on local network and interconnection planning, OSS interface architectures, and the technical aspects of product delivery.

For the 15 years before coming to Denver, I worked at Bell Labs in New Jersey in a variety of positions. From January 1994 through May 1995 I led a team at Bell Labs investigating the various network infrastructure alternatives for entering the local telecommunications market. Between 1980 and 1994 I was in various technical projects

at Bell labs, primarily focused on network architecture, network performance and systems engineering.

I received a BS in Electrical Engineering from Oklahoma State University in 1972. I received an MS in Electrical Engineering from the University of Illinois in 1974. I completed all the course work for a Ph.D. in Electrical Engineering from the University of Illinois in 1976. My Curriculum Vitae is attached; please see Level 3/801, Wilson/1-12.

Q. HAVE YOU FILED TESTIMONY IN OREGON BEFORE?

A. Yes, I have filed testimony and testified on behalf of AT&T and others in Oregon in several cases. I also acted as the technical witness for Electric Lightwave (ELI) in its anti-trust case against Qwest. While the ELI case was filed in Washington, much of the case involved interconnection circuits in Oregon. These cases are listed in Level 3/801, Wilson/1-12.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I participated in a technical workshop between Level 3 and Qwest in Portland on March 7 and 8, 2006. David Booth of the Oregon Staff also attended this meeting**.** In the testimony below I will summarize the discussions that were held during the workshop and point out differences between the Level 3 and Qwest positions on the major issues.

Q. WHAT WERE THE MAJOR ISSUES DISCUSSED IN THE WORKSHOP?

A. The companies spent a large portion of the time drawing and discussing two network diagrams that are filed with Mr. Greene's testimony; see Level 3/701, Greene/1-2 and Level 3/703, Greene/1-2. The companies discussed a number of issues in dispute, based on the network diagrams that were developed. The first issue was the location and status of Points of Interconnection (POIs) that Level 3 has constructed and leased in Oregon. The second was the equipment or trunking that Qwest requires at a POI before Qwest will consider traffic delivered to the POI to be "local" traffic. The third issue concerned

ISP services and the location of ISP related equipment. The fourth issue concerned VoIP calls. I will address these issues in the testimony below.

Q. WHAT IS A POI?

A. A Point of Interconnection or POI is the location where two carriers connect their networks for the purpose of exchanging traffic. In this case, it is the place where Level 3 brings its traffic to connect with Qwest's network to exchange traffic. Each party pays for its network on its respective side of the POI. This allows each party to provide service according to the technical requirements of their network. A POI can be any number of leased or owned facilities including a fiber meet point, a collocation arrangement or at other mutually agreed to points. Either party has the choice of constructing or leasing facilities up to the POI. The POI also defines the point at which each company takes its traffic from a financial point of view. The technical and financial aspects of POIs are intermixed and must be addressed together.

Q. WHAT TYPES OF POINTS OF INTERCONNECTION HAS LEVEL 3 BUILT IN OREGON?

A. Level 3 has invested in a large number of POIs in Oregon. These POIs can be broken down into two main categories. Primary POIs for Oregon have been constructed in 13 locations as shown as red dots on the map in Level 3/703, Greene/1-2. Several of the Primary POIs are built in collocation areas in Qwest tandem offices. Level 3/701, Greene/1-2 shows this type of POI on the left side of the diagram in the box labeled "Portland LCA." Primary POIs that are not in collocation areas are served by Special Access trunks that Level 3 has leased from Qwest or other providers. Level 3/701, Greene/1-2 shows this type of POI on the left side of the diagram in the box labeled "Bend LCA". Level 3 pays for all transport to and from these POIs on the Level 3 side of the POI.

Q. DOES LEVEL 3 HAVE ADDITIONAL POINTS OF INTERFACE IN OREGON?

A. Yes. In addition to the Primary POIs, Level 3 is paying for Secondary POIs at locations throughout Oregon, as Mr. Greene explains in his testimony. These are shown as blue dots on the map attached as Level 3/703, Greene/1-2. Secondary POIs are locations where Level 3 is paying for Direct End Office Trunks (DEOTs) from a Primary POI location to a Qwest End Office that may be in a different local calling area. Qwest calls this trunking "Direct Trunked Transport" (DTT) and that is how it is purchased from Qwest. Since Level 3 is paying the entire cost of the DEOT, it moves the POI to the point where the trunk terminates at the Qwest switch. An example of this type of POI is shown on Level 3/701, Greene/1-2 in the box on the left hand side labeled "Hermiston LCA". This diagram shows the long trunk from the Level 3 MUX at Portland to the Qwest MUX at Hermiston. This trunk is the DEOT/DTT that Level 3 is purchasing from Qwest. The Secondary POI is shown behind the Qwest MUX. In practice, this POI would be located on the DS1 distribution frame that links the DTT with the Qwest End Office switch. The configuration is standard for a Direct End Office Trunk.

Q. ARE THERE ANY PLACES IN OREGON WHERE LEVEL 3 DOES NOT HAVE A POI AND IS USING A VNXX TYPE ARRANGEMENT?

A. Yes. There are several small local calling areas where Level 3 provides service to ISP customers but does not have a POI. An example of this type of configuration is shown on Level 3/701, Greene/1-2 on the left side in the box labeled "Baker LCA." The map in Level 3/703, Greene/1-2 shows these areas in pink in the western part of Oregon.

Q. DOES LEVEL 3 AGREE THAT TRAFFIC FROM LOCAL CALLING AREAS OF THIS TYPE IS VNXX TRAFFIC?

A. Yes, Level 3 agrees as a compromise in this docket that traffic from local calling areas where Level 3 does not have a Primary POI or a Secondary POI is VNXX traffic and

should be treated under Oregon rules that govern such traffic. Level 3 intends to place Secondary POIs in these local calling areas as soon as possible.

Q. WHAT IS THE CURRENT PERCENTAGE OF TRAFFIC AT THE DIFFERENT TYPES OF POIs IN OREGON?

A. The current traffic breaks down is contained in Level 3/714, Greene/1.

Q. HOW DOES LEVEL 3 VIEW LOCALLY DIALED CALLS IN A LOCAL CALLING AREA WHERE LEVEL 3 HAS A POI?

A. Level 3 believes that when Level 3 is paying transport to and from a POI in a local calling area that all traffic exchanged at the POI that is not POTS traffic dialed as toll traffic should be considered as local traffic. The particular issue here is for dial-up Internet traffic to an ISP provider. Level 3 has ISP customers who need to receive dial-up Internet calls from Qwest customers. Level 3 gives their ISP customers local phone numbers for the local calling area where the ISP's customers reside. This allows the Qwest phone subscribers to dial the ISP using a local, non-toll number. Internet users do not expect to pay toll charges for dial-up Internet. In local calling areas where Level 3 has either a Primary or a Secondary POI, Level 3 is paying to get traffic to and from the POI.

Q. WHAT IS QWEST'S POSITION WITH RESPECT TO THESE CALLS?

A. Qwest has maintained for some time that Level 3 must have ISP modems in the local calling area before dial-up Internet traffic could be considered local traffic. Qwest's affiliate QCC provides ISP service both at the retail and wholesale level. QCC accesses many remote offices via ISDN PRI trunks. It is my understanding that Qwest's position is that these ISDN PRI trunks provide the "local" presence for QCC and its ISP customers.

Q. IS IT QWEST'S POSITION THAT THE LEVEL 3 PRIMARY POIS PROVIDE A LOCAL PRESENCE FOR LEVEL 3'S ISP CUSTOMERS IN THE LOCAL CALLING AREAS WHERE THE POIS ARE LOCATED?

A. I believe Qwest agreed in the workshop that POI locations where Level 3 either has collocated equipment or has leased Special Access trunks provide Level 3's ISPs with a local presence in the same way that the Qwest PRI trunks provide local access to its customers. However, since none of the Qwest representatives at the workshop were under oath, I am concerned that the original Qwest position that virtually none of the Level 3 traffic was "local" in nature has not changed, even though Level 3 is obviously providing and paying for transport to and from the local calling area on Level 3 facilities.

Q. WHAT IS QWEST'S POSITION REGARDING THE SECONDARY POIS?

A. It is my understanding that Qwest does not believe that the Secondary POIs that Level 3 has designated provide a "local" presence for Level 3 in a local calling area. However, Qwest was not at the time of the technical conference familiar with the Level 3 Secondary POIs and it remains to be seen whether they will accept these POIs as providing a local presence for Level 3.

Q. SHOULD QWEST ACCEPT THE LEVEL 3 SECONDARY POIS AS PROVIDING A LOCAL PRESENCE FOR LEVEL 3 SERVICES?

A. Yes. Level 3 is paying the complete fee for the DEOT/DTT trunks from the Level 3 Primary POI to the Qwest End Office. These trunks extend Level 3's presence to the Qwest End Office in the same manner as Qwest's PRI trunks do for QCC. Both DTT and PRI use trunk ports on the end office switch. These trunk ports are generally provisioned on the same type of trunk port cards with slightly different software settings. While PRI trunks use ISDN PRI protocol and DTT trunks use SS7 protocol, ISDN PRI protocol is based on SS7 protocol and both provide basically the same functions. I see no real difference between the PRI trunks that Qwest and QCC use and the DEOT/DTT

trunks that Level 3 and its ISP customers use. They require the same resources on the Central Office Switch and perform the same functions for both companies.

Q. HAS THE OREGON COMMISSION ADDRESSED THIS TYPE OF NETWORK CONFIGURATION BEFORE?

A. No, it has not. I was the lead technical witness for AT&T during the extensive SGAT hearings in Oregon and in the other Qwest states. The network configuration that is being addressed in the Level 3 case is different and should be considered in a new light. During the SGAT hearings and in more recent rulings on VNXX, Qwest was concerned that CLECs would get a "free ride" by forcing Qwest to backhaul traffic from the LCA for the CLECs at Qwest's expense. Qwest argued that even though the traffic originates with Qwest end users, Qwest should not be forced to bear the cost of taking traffic across local calling area boundaries. In the situation at issue here, Level 3 is not asking Qwest to backhaul the traffic at all. Level 3 has built and paid for a network to all of the large local calling areas and they are paying for DEOT/DTT trunking to the other calling areas where they are offering local service. In these instances Level 3 is paying the full price for taking traffic to and from both its Primary and Secondary POIs. Level 3 is not asking Qwest to pay for any of the backhauling of traffic to the Level 3 switch, even when Qwest customers originate the traffic. In previous cases other CLECs wanted Qwest to haul the traffic to the CLEC switch when calls were originated by Qwest customers.

Q. IS THERE ANY TECHNICAL REQUIREMENT IN THE SGAT OR OTHER INTERCONNECTION CONTRACTS THAT THE CLEC MUST PUT EQUIPMENT IN THE LOCAL CALLING AREA BEFORE THEIR SERVICES IN THAT LOCAL CALLING AREA ARE CONSIDERED "LOCAL"?

A. No. There is no such requirement. Collocation is only one of several methods of interconnection. Using DEOT/DTT trunks for the secondary POIs is essentially a form

of Meet Point interconnection as provided in the SGAT. Meet Point Interconnection does not require the location of equipment at the Qwest office.

Q. IS LEVEL 3 ASKING FOR THE SAME CONNECTIVITY THAT QWEST PROVIDES TO QCC?

A. QCC provides both retail and wholesale ISP services to its customers. The wholesale services that QCC provides are very similar to those offered by Level 3. QCC uses PRI trunks instead of the DEOT/DTT trunks that Level 3 uses. The only difference is that the PRI trunks are retail service that is slightly more expensive retail than the DEOT/DTT trunks. In addition, there is no reciprocal compensation on the PRI trunks. QCC is apparently operating as a customer of Qwest's and not a co-carrier as Level 3. Level 3 is a CLEC and should not be penalized by Qwest for operating as a CLEC. Qwest seems to believe that Level 3 should act as Qwest's customer and purchase its retail services in order to provide local service to its ISP customers.

Q. TECHNICALLY, WHAT ARE THE PRI TRUNKS AND DEOT/DTT TRUNKS PROVIDING TO QCC AND LEVEL 3 RESPECTIVELY?

A. Both PRI and DEOT/DTT trunks provide basic connectivity or capacity from one office to another office. Both types of trunks are sized to meet the traffic requirements that the company estimates is necessary for good service. Both PRI and DEOT/DTT trunks provide switching by the end office so that ISP subscribers can call a local number and get connected to the Internet through the ISP.

Q. DOES EITHER LEVEL 3 OR QCC PROVIDE "DIAL TONE" SERVICE TO ISP CUSTOMERS?

A. No. The service that both Level 3 and QCC are providing to ISP customers is not a "dial tone" type service as no dial tone is necessary. Qwest has said that the Qwest End Office Switch provides dial tone for the QCC ISP customers, but this is not correct. ISPs do not originate calls, they only receive calls from dial-up Internet users. However, the

Qwest End Office Switch can be viewed as providing service to the QCC ISP customers. The Level 3 switch is providing service to the Level 3 ISP customers. Since the Qwest switch is providing basic service to the QCC customers, it is appropriate that the trunking to the switch is different and slightly more expensive. Qwest is not providing basic service to the Level 3 ISP customers. Level 3 is providing that service. Level 3 is a co-carrier, while QCC is Qwest's customer.

Q. WOULD IT BE REASONABLE TO REQUIRE LEVEL 3 TO COLLOCATE SWITCHING IN EVERY LOCAL CALLING AREA?

A. No, it would not. One of the principle tenants of the Telecommunications Act was that the CLECs should not be required to build out their networks and mirror the networks of the ILECs. Level 3 should not be required to install additional equipment so that it can meet some higher standard of local presence that Qwest is demanding.

Q. WHAT IS THE PRIMARY ISSUE WITH RESPECT TO VOICE OVER INTERNET (VoIP) IN THIS CASE?

A. There is a dispute between the parties with regard to the POI for VoIP calls. This dispute is similar in nature to the dispute regarding the POI for dial-up Internet service.

Q. WHAT IS LEVEL 3'S POSITION ON THE POI FOR VoIP TRAFFIC?

A. Level 3 believes that the POI for VoIP traffic is the same as the POI for dial-up traffic. Level 3 is paying for transport to both the Primary and Secondary POIs as discussed earlier. These POIs are the point to which Level 3 has paid to bring its traffic.

Q. WHAT IS QWEST'S POSITION ON THE POI FOR VoIP TRAFFIC?

A. My understanding from Qwest's filed testimony and from the workshop is that Qwest could require the POI for VoIP to be at the point where the ESP hands off traffic to Level 3 or where calls are converted from IP to TDM (or vice versa) – the Media Gateway. So, for example, the VoIP POI for a call that originates with a VoIP provider such as Skype would be where Skype puts traffic onto the Level 3 network. This could

be in Virginia for the entire country. On Level 3/701, Greene/1-2, this would be either at the Media Gateway (box labeled "Level 3 Seattle Gateway") or at the VoIP Provider Network point (Internet cloud at lower right). Both of these points are within the Internet, not on the PSTN.

Q. WHAT WOULD LEVEL 3 NEED TO DO UNDER QWEST'S POSITION ON VoIP TO MAKE VoIP CALLS LOCAL CALLS?

A. Under Qwest's proposed rules, Level 3 would need to effectively place a Media Gateway in every local calling area in Oregon or to lease private lines to every local calling area from the Level 3 Media Gateway in Seattle. Alternatively, Level 3 could lease private lines from Skype's location in Virginia to every local calling area in Oregon. They would also need to lease private lines from every other VoIP provider whose traffic they carry to all Oregon local calling areas as well. It was not exactly clear which of these requirements would satisfy Qwest.

Q. WHAT IF A SKYPE CUSTOMER WAS CALLING THEIR NEIGHBOR NEXT-DOOR USING VoIP?

A. Under the rules proposed by Qwest, Level 3 would still need either a media gateway in the local calling area or private lines to Virginia to make a call between neighbors a local call.

Q. IS THE QWEST PROPOSAL REASONABLE?

A. No, it is not. It would be prohibitively costly for Level 3, or any provider to put media gateways in every local calling area or to lease private lines to the point at which traffic is handed to Level 3 from the VoIP provider. Qwest is trying to force an expensive architecture on Level 3 so its service is not competitive.

Q. WHAT IS YOUR OVERALL RECOMMENDATION WITH RESPECT TO THE ISSUES ADDRESSED ABOVE?

A. I would advise this Commission to follow the Level 3 recommendations for these issues. Level 3 is paying its fair share for transporting traffic in Oregon and has gone much further than any other CLEC in moving POIs into the local calling area. The requirements that Qwest is proposing are onerous and unreasonable. Qwest is attempting to force the CLECs to mirror the large Qwest network and the design that QCC has chosen, which relies on the large Qwest network.

ISSUE 2: COMBINING DIFFERENT TRAFFIC TYPES ON INTERCONNECTION TRUNKS

Q. WHAT IS LEVEL 3'S POSITION ON THIS ISSUE?

A. Level 3 and Qwest are perfectly capable of exchanging locally dialed traffic as well as all forms of traffic (including traditional circuit switch "interexchange" or "switched access" traffic) over Level 3's existing and extensive interconnection network. Qwest's requirement for Feature Group D ("FGD") trunks is unnecessary and duplicative.

Q. WHAT IS QWEST'S POSITION?

A. Qwest asserts that Level 3 must order and provision FGD trunks to each POI as well as separate interconnection trunk groups for local and intraLATA traffic based solely upon billing concerns. Qwest further claims that establishing a duplicative FGD network for purposes of exchanging "switched access" or "interexchange" or "FGD" would be just as efficient for Level 3 as it would be to use Level 3's existing and extensive interconnection network to exchange all such traffic today.

Q. WHY ARE QWEST'S CLAIMS THAT LEVEL 3 MUST ESTABLISH FGD TRUNKING INCORRECT?

A. There is no issue as to whether traffic subject to different rating schemes can be exchanged over a single network as Qwest readily concedes in discovery responses. Mr.

Linse conceded at page 31 of his testimony that Qwest can route local traffic over the same trunks as Qwest currently routes "switched access" or "interexchange" or "FGD" traffic today. The converse is equally as true.

Q. SO A "TRUNK" IS A "TRUNK", CORRECT?

A. Yes. There is no fundamental difference between FGD trunks and any other trunks. Historically, one of the features of FGD trunks was the proper rating of calls. However, there are now better ways to rate calls, given that end users are not necessarily physically located in the rate center associated with a particular switch. Accordingly, Qwest's objections to Level 3's Section 7.2.2.9.3.1 are unfounded.

Q. AND A SWITCH IS A SWITCH, CORRECT?

A. Yes. Switches route traffic between local loops and trunk groups and between different trunk groups.

Q. SO, IS IT TECHNICALLY FEASIBLE FOR AN END OFFICE SWITCH OR A TANDEM SWITCH TO ROUTE BOTH LOCAL AND TOLL TRAFFIC OVER THE SAME OUTGOING TRUNK GROUP?

A. Yes it is.

Q. PLEASE EXPLAIN HOW AN END OFFICE SWITCH ROUTES 1+ TOLL TRAFFIC TO THE APPROPRIATE TRUNK GROUP.

A. Figure 1 of Level 3/802, Wilson/1-4 shows a diagram of an end office switch. Each customer is connected to the switch by use of a line card. Each line card can handle multiple customers and there are many line cards on a typical switch. When a Qwest customer picks up the telephone, the switch immediately refers to an internal database and associates the call from that particular line with a predetermined line class code. This is true whether they dial a number to someone in the local calling area or dial a 1+ number to reach a long distance number. The line class code associated with a particular incoming line will point to the correct routing table in switch memory. The routing table

(using the dialed digits) directs the switch matrix to either complete the call to another subscriber on the same switch or to a trunk group that connects the switch to another switch. For the issue of interest here, the call being dialed is a 1+ call. The switch will evaluate the customer's CIC to determine which long distance carrier the customer is subscribed to. Once this is determined, the routing table will point the call to the correct trunk group to reach that long distance carrier. In the example shown, the 1+ call is made by a customer presubscribed to a carrier, acting in its capacity as an IXC. When the carrier has a Direct End Office Trunk (DEOT) to that end office, with traditional architecture, the call is directed to a FGD trunk group (Trunk Port 100 in Figure 1).

Q. HOW ARE 1+ CALLS ROUTED WHEN THE IXC HAS NO FGD TRUNK AT THE END OFFICE?

A. When the IXC does not have a FGD DEOT, the call must be routed by the end office to a tandem switch. In Figure 1, this is shown as Trunk Port 200.

Q. HOW IS ROUTING OF A 1+ CALL HANDLED BY A TANDEM SWITCH?

A. Figure 2 of Level 3/802, Wilson/1-4 shows a trunk group coming from the end office switch into a tandem switch. The trunk group will have calls from multiple customers that need to go to different IXCs. The tandem switch must determine which call goes to which IXC, so that it can route each call to the appropriate outgoing trunk group. This is done by first evaluating the dialed number and CIC associated with each call on the incoming trunk group with a trunk group call translation function. After the translator has evaluated a call, the switch routing tables will dictate the appropriate outgoing trunk that the call should be placed on to connect with the designated IXC. The Switching Matrix does the actual switching of the voice call from the incoming trunk group to the outgoing trunk group. The traditional architecture places 1+ calls on FGD trunk groups. However, the switch has the flexibility to place any given call on any trunk group.

Q. IS LEVEL 3 REQUESTING A MORE EFFICIENT ARCHITECTURE FOR ROUTING CALLS?

A. Yes, instead of using two different trunk groups for routing local calls and 1+ calls, Level 3 is requesting that Qwest route both local and 1+ calls to the same trunk group. This is more efficient from an engineering standpoint, especially when there are only a small number of 1+ calls, which is the case with Level 3.

Q. HOW WOULD THE END OFFICE SWITCH ROUTE CALLS DIFFERENTLY WITH THE ARCHITECTURE THAT LEVEL 3 IS PROPOSING?

A. Figure 3 of Level 3/802, Wilson/1-4 shows the architecture that Level 3 is proposing for end office switches. This architecture is similar to that shown in Figure 1, but instead of routing 1+ calls to Trunk Port 100 (a FGD trunk to Level 3) the calls are routed on the Interconnection Trunk Group on Trunk Port 300. The trunk port numbers are just used as examples. However, the local switch does have unique trunk port numbers associated with every trunk group. The end office switch has no more difficulty in routing a 1+ call to an interconnection trunk group than it does to a FGD trunk group. It is just a matter of programming the routing table with the correct trunk group assignment. Since the routing table must be programmed for either architecture, the configuration that Level 3 is proposing is no more difficult than the traditional architecture.

Q. IS THE LEVEL 3 CONFIGURATION MORE EFFICIENT?

A. Yes, the Level 3 configuration does not require the provisioning of a FGD trunk group.

Q. HOW WOULD THE TANDEM OFFICE ROUTE CALLS USING THE LEVEL 3 ARCHITECTURE?

A. Figure 4 of Level 3/802, Wilson/1-4 shows the routing of calls at the tandem proposed by Level 3. This is similar to the architecture shown in Figure 2. Instead of routing calls to a FGD trunk on Trunk Port 500, the 1+ calls are routed to the Interconnection Trunk Group on Trunk Port 600. Once again, this is a simple matter of programming the

routing table in the tandem to route 1+ calls bound for Level 3 to the Interconnection Trunk Group instead of to a FGD trunk group. The routing table must be programmed in either case.

Q. IS THIS ARCHITECTURE MORE EFFICIENT THAN THE ARCHITECTURE PROPOSED BY QWEST?

A. Yes, the architecture shown in Figure 4, proposed by Level 3, is more efficient than the architecture proposed by Qwest in Figure 2. In the Level 3 architecture there is no need for a separate FGD trunk group.

Q. ARE THERE SITUATIONS WHERE QWEST CUSTOMERS WILL ORIGINATE 1+ CALLS THAT NEED TO BE DIRECTED TO THE LEVEL 3 INTERCONNECTION TRUNKS?

A. Yes, such calls may occur in the future and the contract needs to clearly state that Qwest will allow such calls to flow over the Interconnection Trunks.

Q IS LEVEL 3 ASKING QWEST TO ROUTE 1+ TRAFFIC OVER TANDEM SWITCHES THAT ONLY HANDLE LOCAL CALLS?

A. No. Level 3 has agreed that only local traffic will be directed to tandems that only handle local traffic.

Q. ARE ALL OF THE DIFFERENT SWITCH TYPES THAT QWEST USES CAPABLE OF THE ROUTING ARCHITECTURE THAT LEVEL 3 IS PROPOSING?

A. Yes, with the exception of tandem switches used for only local calls, mentioned above, all of the switch types used by Qwest are capable of this routing, whether they are made by Lucent, Nortel or another manufacturer. The Level 3 architecture is not requiring the switch to do anything new or different. It is merely a matter of assigning the routing to a different trunk group.

Q. ARE THERE BILLING ISSUES ASSOCIATED WITH THE ARCHITECTURE THAT LEVEL 3 IS PROPOSING?

A. Qwest is concerned about billing issues. Level 3 addressed these issues in some detail in testimony filed in this case**.** In that testimony I show how the billing for different call types on a single trunk group can be handled. Level 3 is doing this successfully today with SBC, Bell South and Verizon, so there is no reason that the same arrangement can't be made with Qwest.

Q. WHAT IS THE PROBLEM WITH ORDERING FGD TRUNK GROUPS TO EACH POI?

A. The majority of Level 3's traffic is locally dialed traffic. In other words, Level 3 picks up and delivers all traffic to POIs located within the LATAs in which the traffic originates from Qwest's customers or in which Level 3 brings it for termination to Qwest customers. So even assuming that Qwest's billing concerns could justify requiring that Level 3 go to this expense and trouble to establish FGD trunks, there is very little traffic that would require this sort of billing anyway. This is true despite Qwest's unsubstantiated accusations regarding WilTel traffic, but I will allow Mr. Greene to address that directly. Therefore, by any measure, it makes no sense for Level 3 to order separate FGD trunks for a small amount of access traffic. To the extent that 1+ dialed traffic must be exchanged with third party "interexchange carriers" Level 3 and Qwest have "meet point" trunk groups in place that provide that functionality.

Q. DO SBC, VERIZON OR QWEST DEPLOY SWITCHES OR BILLING SYSTEMS THAT ARE MATERIALLY DIFFERENT THAN WHAT QWEST USES TODAY?

A. SBC, Verizon and Qwest all use the same types of switches. The majority of their switching is done by Lucent and Nortel switches, all of which have great flexibility in

their operation. These switches can easily route 1+ dialed traffic at interconnection trunks.

Q. IS LEVEL 3 USING THIS METHODOLOGY WITH OTHER ILECS?

A. Yes, Level 3 is combining all traffic on interconnection trunks in the SBC, BellSouth, and Verizon territories. We are using the PLU/PIU method of billing in the 34 states comprising these Bell operating regions with problems no more severe or any different than the sorts of verification that occurs daily between carriers exchanging not only vast amounts of traffic, but vast amounts of billing information about that traffic.

Q. DO LEVEL 3's METHODS REDUCE BILLING COSTS?

A. Yes.

Q. PLEASE EXPLAIN.

A. Level 3's billing factors tend to reduce the costs of billing by virtue of the fact that reliable sampling and application of factors, as proposed by Level 3, actually requires far less effort than billing each and every call. Recording every call and then sending it to various databases for rating requires resources and human intervention for errors. In addition, there are always a small percentage of calls that can not be properly rated. These calls require billing factors for rating anyway.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. It does.

CURRICULUM VITAE

Kenneth L. Wilson, Boulder Telecommunications Consultants, LLC., 970 11th Street, Boulder, CO 80302. (303) 442-1296. email: ken.wilson@bouldertel.com

Current Position

1998-Present Senior Consultant, Boulder Telecommunications Consultants, LLC.

Past Positions

1995-1998 AT&T Technical Negotiations Director, Local Service Organization Western Region – Technical leader of negotiations and witnessing team responsible for all aspects of AT&T's contracts in 14 states with US WEST. Led technical planning for local infrastructure and Operations Support Systems "OSS" interfaces.

1994-1995 AT&T Bell Labs local infrastructure development and business analysis – technical lead for team evaluating local infrastructure alternatives and OSS.

1992-1994 Bell Labs Technical Director Network Deployment and Asset Management – key team leader on AT&T project to optimize network infrastructure by changing engineering rules and OSS processes.

1988-1992 Bell Labs MTS Supervisor responsible for network design and OSS performance of the FTS2000 network. Network performance planning for new business customer features. Competitive testing and analysis of multiple vendor networks.

1984-1987 Bell Labs MTS and MTS Supervisor, Cellular Telephone Development. Responsible for systems requirements and systems testing of new cellular telephones.

1980-1984 Bell Labs MTS responsible for 4ESS feature and architecture planning.

1977-1980 Software, hardware and manufacturing engineering in two small companies.

1972-1977 Teaching Assistant, University of Illinois Department of Electrical Engineering.

Education

ABD for Ph.D. in Electrical Engineering, University of Illinois, 1976
MS in Electrical Engineering, University of Illinois, 1974
BS in Electrical Engineering, Oklahoma State University, 1972

A. WRITTEN TESTIMONY, AFFIDAVITS AND REPORTS

Date	State	Docket	Filed By	Description
2/11/1998	IA	AIA-96-1	AT&T	Direct Testimony - Arbitration Remand - USWC
2/12/1998	OR	UT138	AT&T	Reply Testimony UM351 Compliance Tariffs - USWC
2/12/1998	OR	UT139	AT&T	Reply Testimony UM351 Compliance Tariffs - GTE
3/9/1998	IA	AIA-96-1	AT&T	Direct Answer Testimony - Arbitration Remand - USWC
3/13/1998	NM	96-411-TC	AT&T	Direct Testimony - Arbitration AT&T/USWC
3/23/1998	IA	AIA-96-1	AT&T	Rebuttal Testimony - Arbitration Remand - USWC
4/8/1998	CO	96S-331T	AT&T	Testimony - Arbitration - Cost Issues - USWC
5/26/1998	AZ	T-0000A-97-238	AT&T	Reply Testimony - Sect. 271 Telecom Act
6/16/1998	MT	D97.5.87	AT&T	Direct & Rebuttal Testimony - Sect. 271 Telecom Act
7/27/98	NM	97-106-TC	AT&T	Direct & Rebuttal Testimony - Interconnection - Sect. 271
7/27/1998	NM	97-106-TC	AT&T	Direct & Rebuttal Testimony - Signaling - Sect. 271
8/7/1998	NE	C-1830	AT&T	Direct & Rebuttal Testimony - Signaling - Sect. 271
8/7/1998	NE	C-1830	AT&T	Direct & Rebuttal Testimony - Interconnection - Sect. 271
9/8/1998	NM	97-106-TC	AT&T	Reply Testimony - Sect. 271 Telecom Act
9/8/1998	NM	97-106-TC	AT&T	Reply Testimony (prop version) - Sect. 271 Telecom Act
11/6/1998	MT	D97.5.87	AT&T	Supplemental Rebuttal Testimony - Sect. 271 Telecom Act
11/13/1998	WA	UT-960369 et al.	AT&T	Sup. Responsive Testimony Arbitration Cost Case
12/1/1998	WA	C97-1073Z	ELI	Expert Opinion - ELI complaint against US WEST for violation of the Sherman Act
2/1/99	WA	C97-1073Z	ELI	Expert Report - ELI complaint against US WEST for violation of the Sherman Act
10/22/99	CA	CA97-2015	CalTech	Expert Report – CalTech complaint against Pacific Tel for violation of the Sherman Act
12/99	CA	CA97-2015	CalTech	Supplement to Expert Report - CalTech complaint against Pacific Tel for violation of the Sherman Act
12/17/99	WA	UT-991292	AT&T	Direct and Rebuttal – Access complaint against US WEST
1/00	CA	CA97-2015	CalTech	Declaration - CalTech complaint against Pacific Tel for violation of the Sherman Act

1/00	AZ	USW application for Section 271 relief	AT&T	Comments on 271 Checklist items 3, 7, 8, 9, 10, 12, and 13
4/00	CO	USW application for Section 271 relief	AT&T	Comments on 271 Checklist items 3, 7, 8, 9, 10, 12, and 13
5/00	WA	USW application for Section 271 relief	AT&T	Testimony on 271 Checklist Items 3, 7, 8, 9, 10, 12, and 13
6/00	CO	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 3, 7, 8, 9, 10, 12, and 13
7/00	WA	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 3, 7, 8, 9, 10, 12, and 13
7/00	VA	Circuit Court, Fairfax County, Chancery # 166950	Hogan Hartson	Initial Expert Report in Trade Secret Case involving High Speed Access and Internet.
7/00	VA	Circuit Court, Fairfax County, Chancery # 166950	Hogan Hartson	Final Expert Report in Trade Secret Case involving High Speed Access and Internet. This report was not filed but was produced in discovery
8/00	CO	Section 271 PUC Workshop, checklist	AT&T	Affidavit on checklist items 1, 14
8/00	AZ	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 1, 14
9/00	AZ	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 1, 14
9/00	CO	Section 271 PUC Workshop, checklist items 1, 14 (follow-up)	AT&T	Affidavit on checklist items 1, 14
10/00	UT, IA, etc.	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 1, 11, 14
10/00	AZ	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 2, 5, 6
10/00	OR	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 1, 11, 14
11/00	CO	Section 271 PUC Workshop,	AT&T	Affidavit on emerging services checklist items (dark fiber, DSL, subloop unbundling)
11/00	WA	Section 271 PUC Workshop,	AT&T	Affidavit on checklist items 1, 11, 14
11/00	AZ	Section 271 PUC Workshop	AT&T	Affidavit on Unbundled loops and Number Portability
12/00	CO	Section 271 PUC Workshop	AT&T	Affidavit on Packet Switching, Line Sharing, DSL, Dark Fiber and SubLoop Unbundling

12/00	WA	Antitrust Case against US WEST	Metronet	Plaintiffs Report on Telecommunications issues
01/01	CO	Section 271 PUC Workshop	AT&T	Affidavit on Unbundled Switching, Unbundled Transport, Combinations, UNE-P and general UNE issues
02/01	UT, IA, etc.	Section 271 PUC Workshop	AT&T	Affidavit on Unbundled Switching, Unbundled Transport, Combinations, UNE-P and general UNE issues
02/01	WA	Section 271 PUC Workshop	AT&T	Affidavit on Unbundled Switching, Unbundled Transport, Combinations, UNE-P and general UNE issues
03/01	OR	Section 271 PUC Workshop	AT&T	Affidavit on Unbundled Switching, Unbundled Transport, Combinations, UNE-P and general UNE issues
03/01	WA	Antitrust Case against US WEST	Metronet	Declaration in Support of Opposition to US WEST Motion for Summary Judgement
03/01	UT, IA, etc	Section 271 PUC Workshop	AT&T	Comments on Unbundled Loops, Line Splitting and Network Interface Devices
03/01	CO	Section 271 PUC Workshop	AT&T	Comments on Unbundled Loops, Line Splitting and Network Interface Devices
03/01	AZ	Section 271 PUC Workshop	AT&T	Comments on Unbundled Loops, Line Splitting and Network Interface Devices
04/01	DC	Class Action, DC Superior Court, 01CA000405	Cohen, Milstein	Affidavit for Plaintiff on technical issues in DSL case against Verizon, in response to motion to dismiss.
05/01	WA	Section 271 PUC Workshop	AT&T	Comments on Unbundled Loops, Emerging Services, Subloop Unbundling
05/01	OR	Section 271 PUC Workshop	AT&T	Comments on Unbundled Loops, Emerging Services, Subloop Unbundling
05/01	GA	Section 271 PUC Hearing	AT&T	Affidavit on Interconnection Trunking and Local Number Portability
05/01	LA	Section 271 PUC Hearing	AT&T	Affidavit on Interconnection Trunking and Local Number Portability
06/01	KY	Section 271 PUC Hearing	AT&T	Affidavit on Interconnection Trunking and Local Number Portability
07/01	AL	Section 271 PUC Hearing	AT&T	Testimony on Interconnection Trunking and Local Number Portability
08/01	CO	Civil Action 01-S-0025	City of Louisville	Defendant's Report on Technical Issues. Involving placement of Microwave Towers
10/01	AZ	Affidavit in Docket T-00000A-97-0238	AT&T	Affidavit regarding the redesignation of Interoffice Facilities (IOF) as loop facilities
12/01	AZ	Section 271 PUC Workshop	AT&T	Comments on Qwest's Stand Alone Test Environment OSS interface simulator
01/02	MN	Section 271 PUC Hearing	AT&T	Affidavit on Non-OSS Checklist items. Docket MPUC P-421/CI-01-0370

01/02	AZ	Section 271 PUC	AT&T	Comments on SATE Summary Evaluation Report Version 3. Docket T-00000A-97-0238
01/02	OR	UM 1038	AT&T and Worldcom	Testimony regarding Commission policy of posting quality reports to its website
02/02	MN	Section 271 PUC Hearing	AT&T	Surrebuttal Affidavit on Non-OSS Checklist items. Docket MPUC P-421/CI-01-0370
02/02	AZ	Section 271 PUC	AT&T	Affidavit Supporting Motion to Reopen Checklist Item 7. Docket T-00000A-97-0238
03/02	AZ	Section 271 PCU	AT&T	Second Affidavit Supporting Motion to Reopen Checklist Item 7. Docket T-00000A-97-0238
03/02	SD	Section 271	AT&T	Affidavit on Checklist Item 4 – Unbundled Loops and Checklist Item 11 LNP. Docket TC 01-165
03/02	SD	Section 271	AT&T	Affidavit on Checklist Item 3 – Rights-of-Way and Checklist item 7 911/E911. Docket TC 01-165
03/02	SD	Section 271	AT&T	Affidavit on Checklist Item 13 – Reciprocal Compensation. Docket TC 01-165
03/02	SD	Section 271	AT&T	Affidavit on Checklist Item 1 and 14 – Interconnection, Collocation and Resale. Docket TC 01-165
03/02	SD	Section 271	AT&T	Affidavit on Issues Regarding Emerging Services. Docket TC 01-165
04/02	WY	Section 271	Contact Communications	Testimony on Issues Regarding Interconnection, Collocation, Loops, Subloops and Emerging services
04/02	OR	UM 1038	AT&T and Worldcom	Rebuttal testimony regarding Commission policy of posting quality reports to its website
06/02	MN	Section 271 PUC Hearing	AT&T	Affidavit on Loops and Number Portability. Docket MPUC P-421/CI-01-0370
06/02	MN	Section 271 PUC Hearing	AT&T	Affidavit on Interconnection, collocation and resale. Docket MPUC P-421/CI-01-0370
06/02	MN	Section 271 PUC Hearing	AT&T	Affidavit on Reciprocal compensation. Docket MPUC P-421/CI-01-0370
06/02	MN	Section 271 PUC Hearing	AT&T	Affidavit on UNEs, Switching and Transport. Docket MPUC P-421/CI-01-0370
06/02	MN	Section 271 PUC Hearing	AT&T	Affidavit on Emerging Services. Docket MPUC P-421/CI-01-0370
07/02	FCC	Qwest 271 Filing	AT&T	Declaration on Checklist items in Qwest I filing for CO, ID, IA, NE and ND
08/02	FCC	Qwest 271 Filing	AT&T	Declaration on Checklist Items in Qwest II filing for MT, UT, WA, WY
08/02	MN	Section 271 PUC Hearing	AT&T	Surrebuttal Affidavit on Loops and Number Portability. Docket MPUC P-421/CI-01-0370

08/02	MN	Section 271 PUC Hearing	AT&T	Surrebuttal Affidavit on Interconnection, collocation and resale. Docket MPUC P-421/CI-01-0370
08/02	MN	Section 271 PUC Hearing	AT&T	Surrebuttal Affidavit on Reciprocal compensation. Docket MPUC P-421/CI-01-0370
08/02	MN	Section 271 PUC Hearing	AT&T	Surrebuttal Affidavit on UNEs, Switching and Transport. Docket MPUC P-421/CI-01-0370
08/02	MN	Section 271 PUC Hearing	AT&T	Surrebuttal Affidavit on Emerging Services. Docket MPUC P-421/CI-01-0370
09/02	FCC	Qwest 271 Filing	AT&T	Ex Parte Declaration on the discriminatory impact of Qwest's secret deals with CLECs WC Docket No. 02-148
10/02	FCC	Qwest 271 Filing	AT&T	Declaration on Qwest's Unfiled Agreements with CLECs WC Docket No. 02-314
10/02	FCC	Qwest 271 Filing	AT&T	Joint Declaration of John F. Finnegan, Timothy M. Connolly, and Kenneth L. Wilson. On Qwest's OSS. WC Docket No. 02-314
11/02	FCC	Qwest 271 Filing	AT&T	Declaration on access to Mechanized Loop Test (MLT) and loop qualification issues. WC Docket No. 02-314
11/02	FCC	Qwest 271 Filing	AT&T	Supplemental Declaration on Qwest's Unfiled Agreements. WC Docket No. 02-314
12/02	FCC	Qwest 271 Filing	AT&T	Supplemental MLT and loop qualification Declaration. WC Docket No. 02-314
2/03	FCC	Qwest 271 Filing	AT&T	Declaration on checklist item issues. WC Docket No. 03-11.
2/03	NY State	Student Guide	NY State	Course on "Emerging Technologies and Convergence in the Telecommunications Network
4/03	CA	Expert Report	Albert Stein, on behalf of	Class Action Suit against Pacific Bell regarding problems provisioning DSL service to DLECs in California
4/03	WY	Expert Report	Contact Communications	Arbitration between Contact Communications and Qwest regarding reciprocal compensation for ISP traffic.
10/03	CO	Direct Testimony	Micro Tech-Tel	Testimony in support of MicroTech-Tel's Triennial Review 90 Day case regarding Enterprise Switching
3/04	CO	Expert Report	Pinnacle Properties	Dispute over Right of Way for telecommunications and power
5/04	MI	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
5/04	CA	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
6/04	IN	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case

6/04	IL	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
9/04	AR	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
9/04	CT	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
9/04	KS	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
9/04	OH	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
9/04	WI	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
10/04	IN	Prefiled Rebuttal Testimony	Level 3	Network Testimony in Arbitration Case
11/04	NV	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
12/04	MO	Prefiled Testimony	Level 3	Network Testimony in Arbitration Case
12/04	NV	Prefiled Rebuttal Testimony	Level 3	Network Testimony in Arbitration Case
2/05	FL	Expert Report	ICS	Contract dispute between ICS and Prosodie regarding quality of service and ownership of 800 numbers
3/05	WY	Prefiled Testimony	Contact Communi cations	Dispute with Qwest on charges for interconnection trunking
4/05	FL	Rebuttal Report	ICS	Contract dispute between ICS and Prosodie regarding quality of service and ownership of 800 numbers
4/05	FL	Supplemental Report	ICS	Contract dispute between ICS and Prosodie regarding quality of service and ownership of 800 numbers
5/05	WA	Declaration in opposition to T-netix	Judd, et al.	Class action suit regarding rate notification for collect calls from Department of Corrections facilities
5/05	WA	Supplemental Declaration in opposition to T-netix	Judd, et al.	Class action suit regarding rate notification for collect calls from Department of Corrections facilities
5/05	WA	Declaration regarding ATT Objection to Expert Designation	Judd, et al.	Class action suit regarding rate notification for collect calls from Department of Corrections facilities.
5/05	WA	Supplemental Declaration regarding ATT Objection to Expert Designation	Judd, et al.	Class action suit regarding rate notification for collect calls from Department of Corrections facilities.

8/05	MN	Expert Report on behalf of FirstCom	FirstCom vs Qwest	Complaint in US District Court, District of Minnesota, 4th Division. Civil File 04-994 ADM/AJB
8/05	WA	Declaration Supporting Plaintiffs' response to T-Netix, Inc." Motion for Summary Judgment	Judd, et al.	Class action suit regarding rate notification for collect calls from Department of Corrections facilities.
3/06	MN	Supplemental Report on behalf of FirstCom	FirstCom vs Qwest	Complaint in US District Court, District of Minnesota, 4th Division. Civil File 04-994 ADM/AJB
4/06	MN	Declaration on behalf of FirstCom	FirstCom vs Qwest	Complaint in US District Court, District of Minnesota, 4th Division. Civil File 04-994 ADM/AJB

B. LIVE TESTIMONY AND DEPOSITIONS

Date	State	Case
2/97	Arizona	Arbitration Hearings between AT&T and U S WEST, representing AT&T.
6/97-12/97	Arizona	Arbitration Hearings between AT&T and U S WEST, representing AT&T. Total of approximately 15 days.
10/17/97	Iowa	Second Motion to compel U S WEST to perform under AT&T Interconnection Agreement, representing AT&T.
4/98	Colorado	96S-331T U S WEST Arbitration Cost Case, representing AT&T.
3/98	NM	96-441-TC U S WEST Arbitration Hearing, representing AT&T.
2/98	OR	UM 351 U S WEST Compliance Tariffs, representing AT&T
3/98	IA	Arbitration Remand between AT&T and U S WEST, representing AT&T.
11/98	WA	UT 960369 U S WEST Arbitration cost case, representing AT&T.
12/98	WA	Deposition – ELI Complaint under the Sherman Act against U S WEST
2/99	WA	Hearing – ELI Complaint under the Sherman Act against U S WEST
12/99	CA	Deposition – CalTech Complaint under the Sherman Act against Pacific Bell
12/99	CO	Hearing – AT&T Complaint against U S WEST for Access Service Quality
1/00	MN	Deposition – AT&T Complaint against U S WEST for Access Service Quality in Minnesota

2/00	WA	Hearing – AT&T Complaint against U S WEST for Access Service Quality
1/00	AZ	Section 271 Workshop, representing AT&T on checklist items 3, 7, 8, 9, 10, 12, and 13
2/00	MN	Hearing – AT&T Complaint against U S WEST for Access Service Quality
3/00	AZ	Section 271 PUC Workshop, representing AT&T on checklist items 3, 7, 8, 9, 10, 12, and 13
6/00	CO	Section 271 PUC Workshop, representing AT&T on checklist items 3, 7, 8, 9, 10, 12, and 13
6/00	WA	Section 271 PUC Workshop, representing AT&T on checklist items 3, 7, 8, 9, 10, 12, and 13
6/00	CO	Section 271 PUC Workshop, representing AT&T on checklist items 3, 7, 8, 9, 10, 12, and 13 (follow-up)
7/00	WA	Section 271 PUC Workshop, representing AT&T on checklist items 3, 7, 8, 9, 10, 12, and 13 (follow-up)
8/00	CO	Section 271 PUC Workshop, representing AT&T on checklist items 1, 14
8/00	AZ	Section 271 PUC Workshop, representing AT&T on checklist items 1, 14
9/00	AZ	Section 271 PUC Workshop, representing AT&T on checklist items 1, 14 (follow-up)
9/00	CO	Section 271 PUC Workshop, representing AT&T on checklist items 1, 14 (follow-up)
10/00	UT, IA, etc.	Section 271 PUC Workshop, representing AT&T on checklist items 1, 11, 14 (6 State consolidated proceeding)
10/00	AZ	Section 271 PUC Workshop, representing AT&T on checklist items 2, 5, 6
10/00	OR	Section 271 PUC Workshop, representing AT&T on checklist items 1, 11, 14
11/00	CO	Section 271 PUC Workshop, representing AT&T on emerging services checklist items (dark fiber, DSL, subloop unbundling)
11/00	WA	Section 271 PUC Workshop, representing AT&T on checklist items 1, 11, 14
11/00	CA	Antitrust trial CalTech vs. Pacific Bell in Federal Court.
11/00	WA	Section 271 PUC Workshop, representing AT&T on checklist items 1, 11, 14 -
12/00	CO	Section 271 PUC Workshop, representing AT&T on checklist items for Dark Fiber, DSL, Packet Switching and Subloop Unbundling
12/00	UT, IA, etc.	Section 271 PUC Workshop, representing AT&T on checklist items for Interconnection and Collocation (7 State consolidated proceeding)
01/01	WA	Section 271 PUC Workshop, representing AT&T on checklist items for Interconnection and Collocation

01/01	UT, IA, etc.	Section 271 PUC Workshop, representing AT&T on checklist items for Collocation, Dark Fiber, DSL, Packet Switching (7 State consolidated proceeding)
01/01	CO	Section 271 PUC Workshop, representing AT&T on checklist items for Interconnection and Collocation
01/01	AZ	Section 271 PUC Workshop, representing AT&T on checklist items for Dark Fiber, DSL, Packet Switching and Subloop Unbundling
02/01	OR	Section 271 PUC Workshop, representing AT&T on checklist items for Interconnection and Collocation
02/01	AZ	Section 271 PUC Workshop, representing AT&T on checklist items for Interconnection and Collocation
02/01	CO	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations
02/01	UT, IA, etc.	Section 271 PUC Workshop, representing AT&T on checklist items for DSL, Packet Switching and Subloop elements (7 State consolidated proceeding)
03/01	AZ	Section 271 PUC Workshop, representing AT&T on checklist items for UNE Loops, Line Splitting and Number Portability
03/01	WA	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations
03/01	CO	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations
03/01	UT, IA, etc.	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations (7 State consolidated proceeding)
04/01	AZ	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations
04/01	CO	Section 271 PUC Workshop, representing AT&T on checklist items for Loops, Number Portability and Line Splitting.
04/01	WA	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations
04/01	UT, IA, etc.	Section 271 PUC Workshop, representing AT&T on checklist items for Loops and Line Splitting. (7 State consolidated proceeding)
05/01	OR	Section 271 PUC Workshop, representing AT&T on checklist items for Unbundled Platform, UNE Switching, Transport and Combinations

05/01	AZ	Section 271 PUC Workshop, representing AT&T on checklist items for Loops, Number Portability and Line Splitting.
05/01	CO	Section 271 PUC Workshop, representing AT&T on checklist items for Loops, Number Portability and Line Splitting.
06/01	AL	Section 271 Hearing, representing AT&T on checklist items for Interconnection Trunks and Number Portability
07/01	WA	Section 271 PUC Workshop, representing AT&T on checklist items for Loops, DSL, Subloop and Line Splitting.
07/01	OR	Section 271 PUC Workshop, representing AT&T on checklist items for Loops, DSL, Subloop and Line Splitting.
07/01	WA	Section 271 PUC Workshop, representing AT&T on checklist items for Loops, DSL, Subloop and Line Splitting.
12/01	AZ	Section 271 PUC Workshop, representing AT&T in the evaluation of Qwest's OSS test environment.
01/02	AZ	Section 271 PUC Workshop, representing AT&T in the evaluation of Qwest's OSS test environment.
03/02	MN	Section 271 Hearing on Non-OSS Checklist items, representing AT&T in the evaluation of Qwest's compliance
04/02	AZ	Section 271 PUC Workshop, representing AT&T in the evaluation of Qwest's OSS test environment
05/02	WY	Section 271 PUC Hearing, representing Contact Communications on various interconnection issues
06/02	CO, IA, ID, NE, ND	Ex Parte presentation with AT&T to DOJ regarding Qwest compliance with 271 checklist items, OSS, and performance
06/02	CO, IA, ID, NE, ND	Ex Parte presentation with AT&T to FCC regarding Qwest compliance with 271 checklist items, OSS, and performance
07/02	MT, UT, WA, WY	Ex Parte presentation with AT&T to DOJ regarding Qwest compliance with 271 checklist items, OSS, and performance
07/02	MT, UT, WA, WY	Ex Parte presentation with AT&T to FCC regarding Qwest compliance with 271 checklist items, OSS, and performance
09/02	MN	Section 271 PUC Hearing, testifying for AT&T on issues of interconnection, resale and unbundled network elements.
02/03	NY	Course on "Emerging Technologies and Convergence in the Telecommunications Network" given to the New York Department of Public Service
5/03	CA	Deposition in Class Action Suit representing plaintiff Albert Stein in his case against Pacific Bell.
6/03	WY	Deposition in Arbitration Case, representing Contact Communications in their suit against Qwest.
7/03	WY	Testimony in Arbitration Case, representing Contact Communications in their suit against Qwest.
10/04	MI	Testimony in Arbitration Case, representing network issues for Level 3 in their contract arbitration with SBC
10/04	IL	Testimony in Arbitration Case, representing network issues

		for Level 3 in their contract arbitration with SBC
10/04	IN	Testimony in Arbitration Case, representing network issues for Level 3 in their contract arbitration with SBC
12/04	CT	Testimony in Arbitration Case, representing network issues for Level 3 in their contract arbitration with SBC
5/05	FL	Deposition in Dispute between ICS and Prosodie on contract issues.
6/05	WY	Testimony before Wyoming Commission on trunking issues between Contact Communications and Qwest
3/06	OR	Workshop with Qwest and Oregon Staff on Technical issues regarding dispute between Level 3 and Qwest
3/06	MN	Deposition in case between FirstCom and Qwest

Routing 1+ Traffic on an End Office Switch – Traditional Architecture

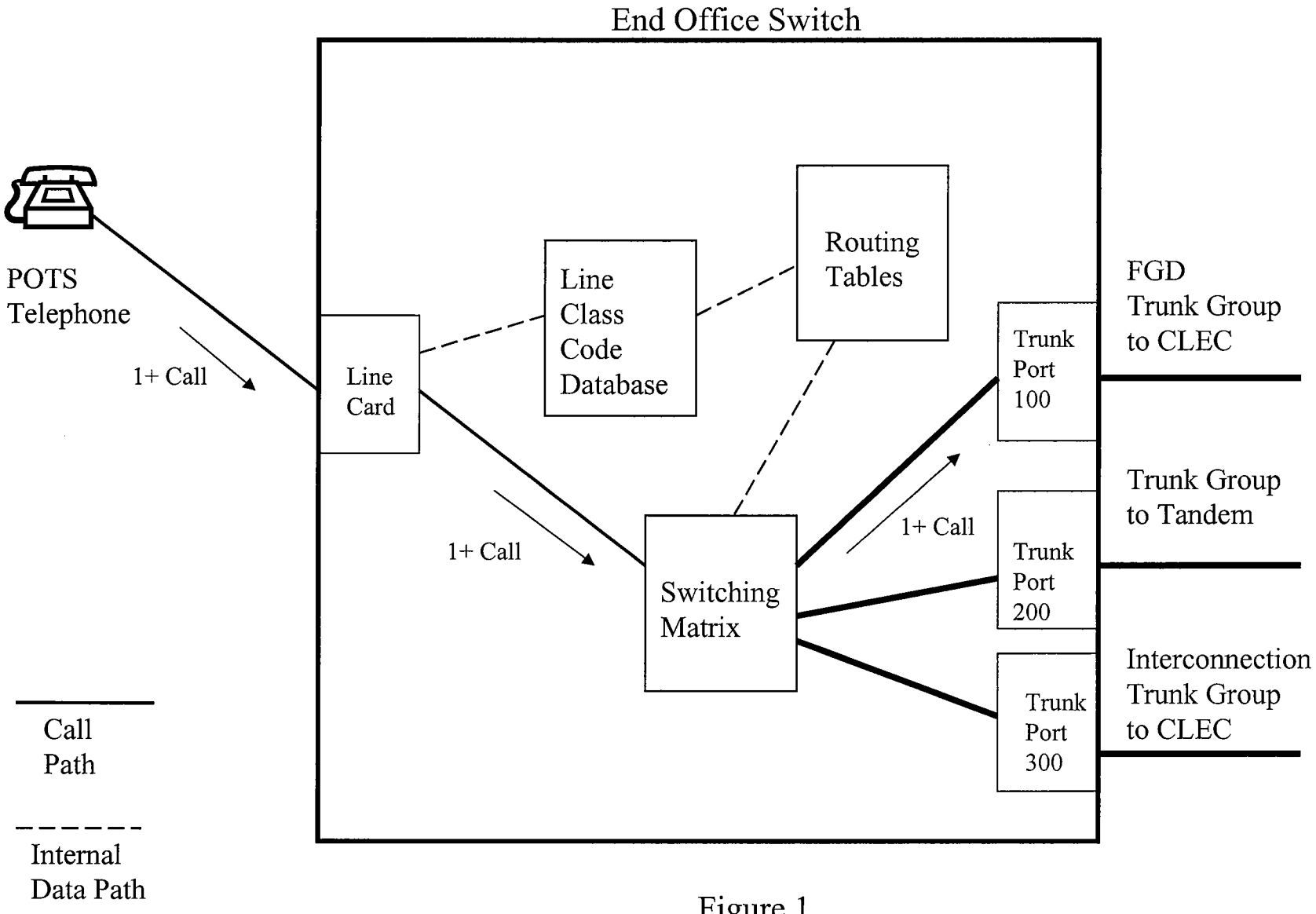

Figure 1

Routing 1+ Traffic on a Tandem Switch – Traditional Architecture

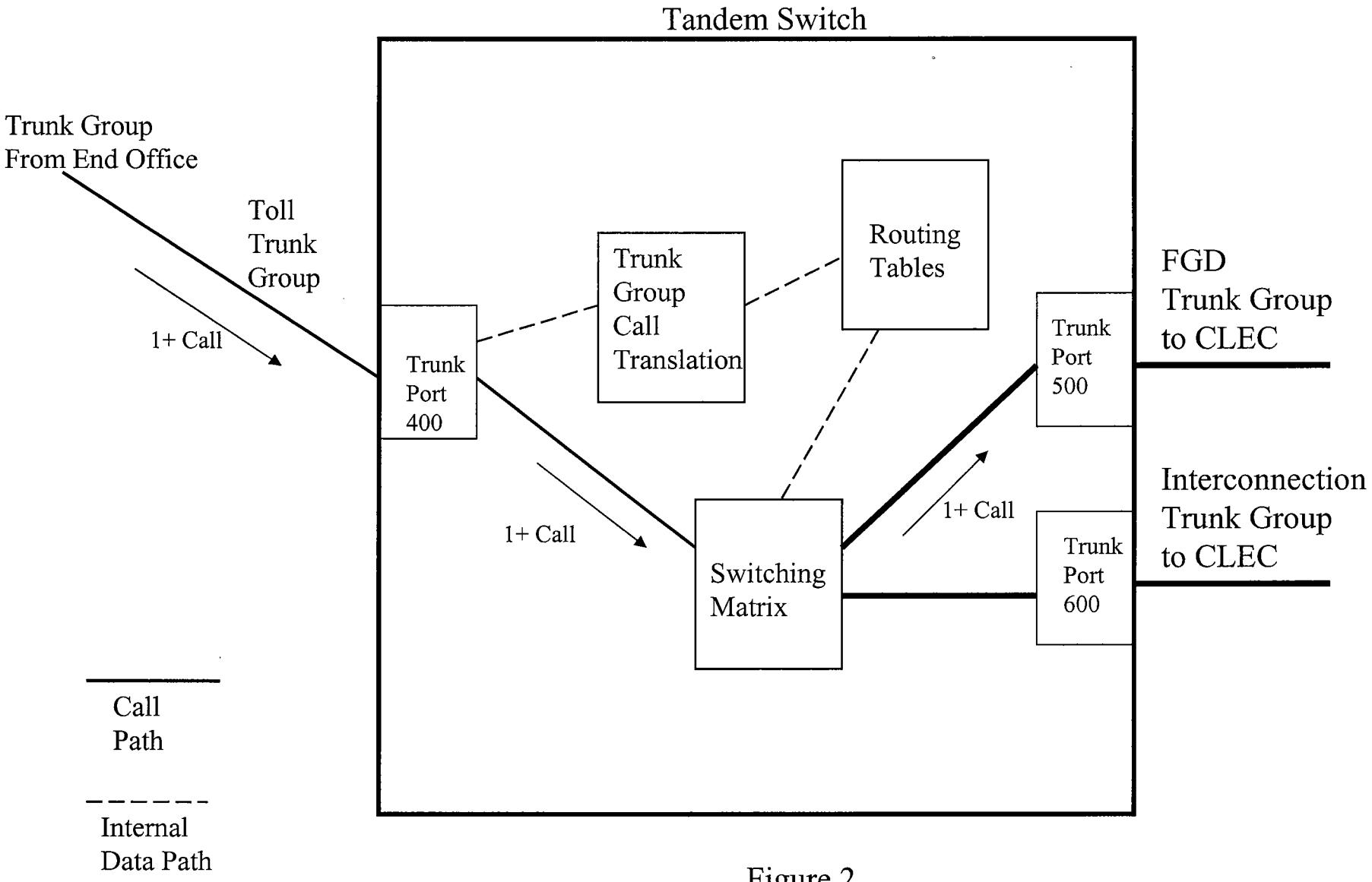

Figure 2

Routing 1+ Traffic on an End Office Switch – Efficient Architecture

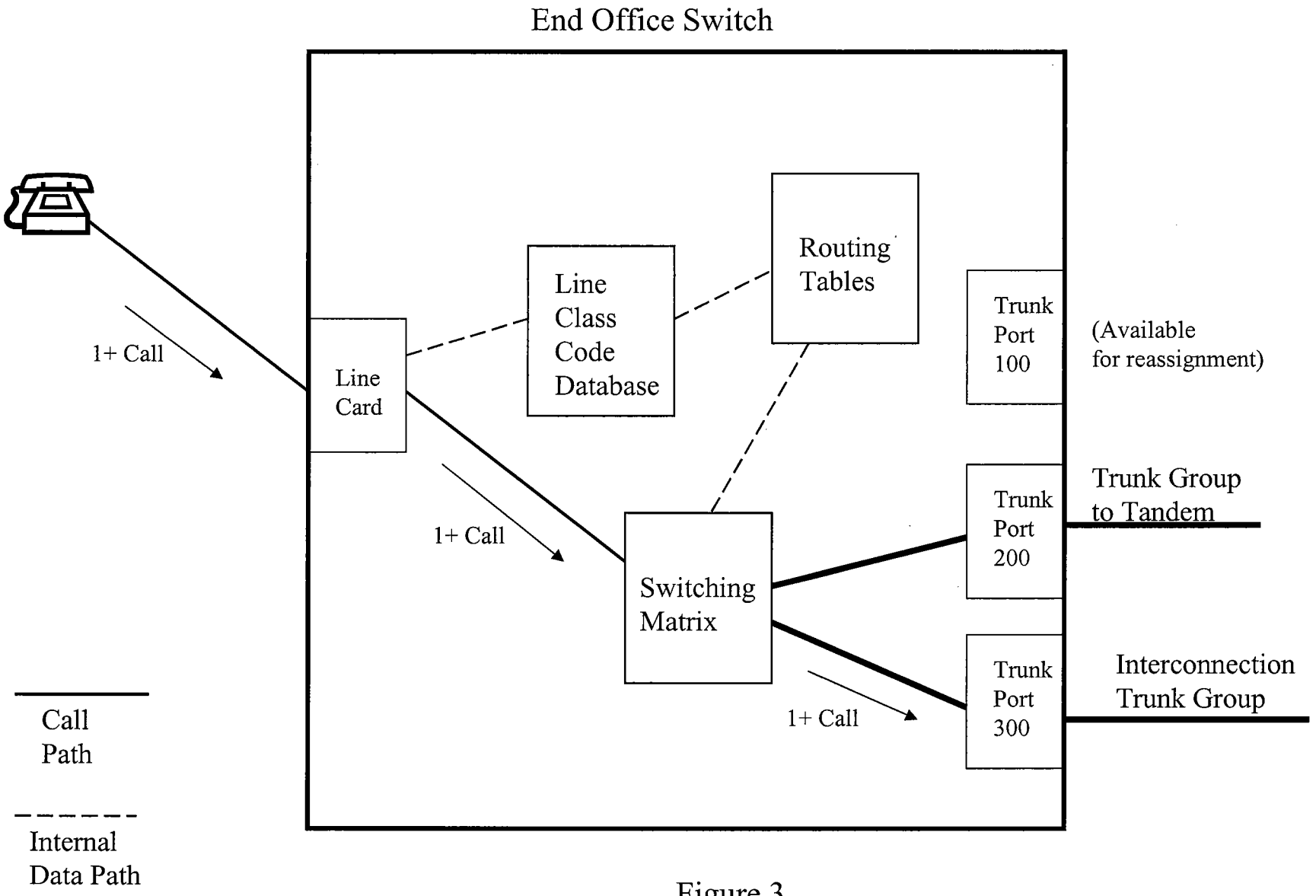

Figure 3

Routing 1+ Traffic on a Tandem Switch – Efficient Architecture

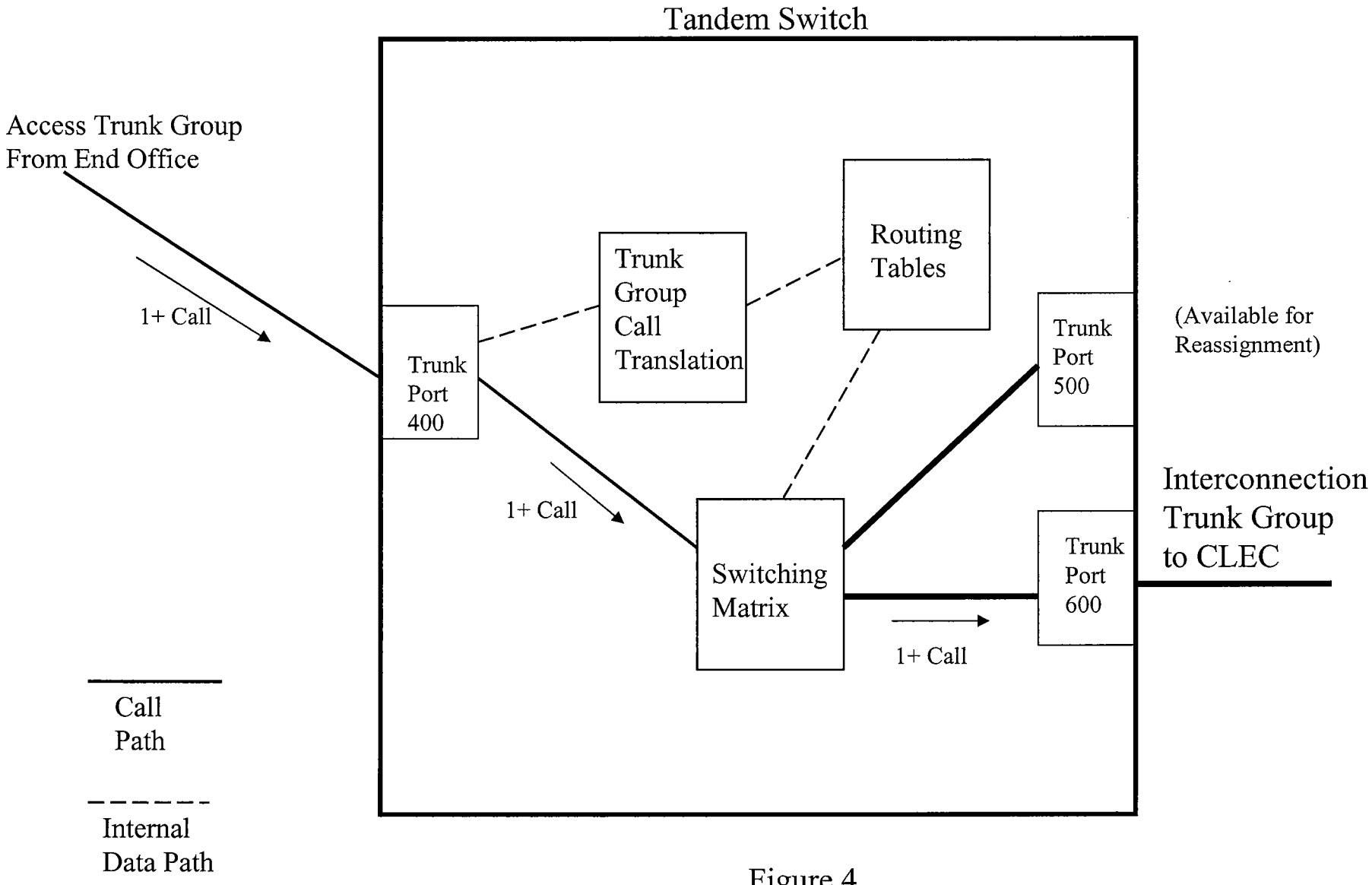

Figure 4

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

ARB 665/IC 12

In the Matter of LEVEL 3 COMMUNICATIONS, LLC's Petition for Arbitration Pursuant to Section 252(b) of the Communications Act of 1934, as amended by the Telecommunications Act of 1996, and the Applicable State Laws for Rates, Terms, and Conditions of Interconnection with Qwest Corporation	ARB 665
In the Matter of QWEST CORPORATION, Complainant v. LEVEL 3 COMMUNICATIONS, LLC, Defendant Complaint for Enforcement of Interconnection Agreement	IC 12

SUPPLEMENTAL TECHNICAL TESTIMONY OF MACK GREENE ON BEHALF OF LEVEL 3 COMMUNICATIONS, LLC

May 10, 2006

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION, EMPLOYER, AND BUSINESS ADDRESS.

A. My name is Mack Greene. I am Director of Interconnection with Level 3 Communications, LLC ("Level 3"). My business address is 1025 Eldorado Blvd, Colorado, 80021.

Q. ON WHOSE BEHALF ARE YOU FILING THIS TESTIMONY?

A. I am filing this testimony on behalf of Level 3.

Q. PLEASE REVIEW YOUR EDUCATION AND RELEVANT WORK EXPERIENCE.

A. I have been employed by Level 3 Communications, LLC ("Level 3") since 2003. Presently, I serve Level 3 as the Director of Interconnection Services. In this position, I am responsible for negotiation, implementation and enforcement of interconnection agreements with over one hundred and fifty incumbent LECs (including RBOCs and rural LECs), competitive LECs, CMRS providers, cable MSOs and other communications providers nationwide.

Prior to my appointment as Director of Interconnection Services, I served as Director Customer Access Solutions for Level 3. As such, I directed all product management activities for Access Solutions to the Level 3 Network. I managed pricing and design support for direct and indirect sales teams and I managed leased network expense supporting SBU product profit and loss.

Before joining Level 3, I worked for Qwest Communications. At Qwest, I held a variety of product positions, most recently serving as Vice President-Strategy and Implementation, and Vice President-Voice and Data Product Management.

I attended Howard University in Washington D.C. participating in the Bachelor of Science, mechanical engineering program.

II. PURPOSE OF TESTIMONY AND SUMMARY OF CONCLUSIONS

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I am testifying regarding Level 3'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, ARB 662 and regarding In the Matter of Qwest Corporation, v. Level 3 Communications, LLC, Complaint for Enforcement of Interconnection Agreement, IC 12.

On March 7 & 8, 2006 Level 3 and Qwest participated in a two day technical workshop with the guidance of Mr. David Booth, Program Director, Oregon Public Utility Commission. During that workshop we examined the details of how Level 3's network is configured in Oregon, where Level 3 picks up and delivers traffic, the exact impact upon Qwest and also how Qwest (and its subsidiary Qwest Communications Corporation) provides wholesale dialup and wholesale VoIP services in competition with Level 3. It became clear to me that Qwest provisions its competing services in nearly the same manner as Level 3, and there is no question that they are a competitor of Level 3 in this space. And Level 3 has deployed this precise network interconnection architecture with Qwest for at least the past four years. This confirmed my concerns that Qwest's interconnection provisions indeed are discriminatory.

III. LEVEL 3'S BUSINESS AND NETWORK

Q. PLEASE BRIEFLY DESCRIBE THE DRAWINGS THAT WERE PRODUCED AS A RESULT OF THE TECHNICAL CONFERENCE.

A. As was explained in the testimony of Rogier Ducloo, Level 3 is one of the largest providers of wholesale dial-up services to ISPs in North America and is the primary provider of Internet connectivity for millions of broadband subscribers through its cable and DSL partners. Level 3's primary competitors are Qwest and Verizon. During the

conference Level 3's technical experts – Ken Wilson and I – provided a detailed diagram of Level 3's network in the State of Oregon. As we explained during the conference, our network utilizes facilities deployed throughout the United States. This is because it is a next generation network that utilizes an infrastructure different from traditional circuit-switched networks such as Qwest's. At the meeting Level 3 and Qwest reduced the diagram to a Visio document, which, over the course of March and April 2006, the parties exchanged and revised several times. Each subsequently filed a copy of the diagram. The details of both diagrams are nearly identical, though Qwest added some labeling to theirs that is not included in the version Level 3 filed with the Commission.

Q. IS THE DIAGRAM LEVEL 3 FILED ON APRIL 24, 2006 AN ACCURATE REPRESENTATION OF LEVEL 3 AND QWEST'S NETWORKS IN OREGON?

A. Yes. However, there are many details that we have tried to confirm with Qwest and are still unable to learn. For example, Qwest states in discovery that it serves Oregon ISP-dialup traffic via Cisco AS400s (which are very old pieces of equipment) or their equivalent in two Oregon locations:[1] What we don't know is whether Qwest serves all of its Oregon ISP traffic out of those two locations or whether that traffic is backhauled to other locations. Furthermore, they still have not provided the location of their Radius servers or other equipment used to serve ISP customers nor have they specified whether their ISP customers locate modems or are themselves located within Oregon. Furthermore, Qwest states that "QCC's Cisco AS 400s do not provide VoIP functions for the exchange of VoIP calls between QC [Qwest Corporation] and QCC [Qwest Communications Corporation]."[2] Qwest, however, refuses to provide any other information about their VoIP services. As a result, I cannot fully determine how their

[1] *See* Qwest Response to Level 3's Data Request Number 2(g) and 13(d). Qwest's responses to Level 3 discovery are attached hereto as Level 3/716, Greene/1-31**.** Qwest's confidential responses are attached hereto as Level 3/717, Greene/1-5**.**

[2] *See* Level 3/716, Greene/6-7, Qwest Response to Level 3's Data Request Number 4(g).

competing services are provided within Oregon nor can I confirm such technical details related to how they provision the service versus how Level 3 provisions it. But I do know that Qwest competes with Level 3 for the provision of wholesale VoIP and dialup ISP access within Oregon.[3]

Q. AS A RESULT OF DISCOVERY AND BASED UPON YOUR FURTHER RESEARCH DO YOU HAVE ANY UPDATES TO MAKE TO LEVEL 3/701, GREENE/1-2, WHICH IS BASED ON THE DIAGRAM LEVEL 3 FILED ON APRIL 24, 2006?

A. Yes. In preparation for the upcoming technical conference on May 23 and 24, I conducted a detailed review of each and every technical aspect of all call that Level 3 seeks to be able to exchange with Qwest over its existing network architecture. This required a more detailed review than was possible at the time of the technical conference and also reflects our extensive discussions with Qwest during March and April. These changes are minor, but I am providing them to ensure the most complete and accurate representation of information possible. In doing so I personally reviewed the each detail in the diagram with Level 3's engineers to double check every single point. Accordingly, I have made the following changes to the technical diagram Level 3 originally submitted on April 24, 2006.

- ✓ Added Computer and Modem Icon connected to Qwest End Office switch to demonstrate both ISP bound and Voice Users;
- ✓ Updated CLLI of Level 3 collection to its actual location in PTLDOR69
- ✓ Changed diagram to show tandem outside of central office where Level 3 collocation is located;
- ✓ Changed end office subtending Portland tandem from PTLDOR69DS0 to PLTLDOR02DS0 to avoid confusion with collocation site;

[3] *See* Level 3/717, Greene/2**,** Qwest Confidential Response to Level 3's Data Request Number 2(c).

- ✓ Added connection from Level 3 Mux in Bend to show redundant network paths back to Portland;
- ✓ Moved VoIP phone to show broadband connection going to the Internet;
- ✓ Added connection to reflect AOL network connecting to the Internet;
- ✓ Added Managed Modem Customer and the Proxy Radius server use to authenticate users; and
- ✓ Added Local Number Portability Server used by Level 3 to determine owner of a Telephone Number.

IV. NETWORK CONFIGURATIONS FOR COMPETIVE PROVISION OF DIALUP ISP AND VOIP SERVICES

Q. PLEASE DESCRIBE HOW LEVEL 3 AND QWEST COMPETE FOR THE PROVISION OF WHOLESALE ISP SERVICES.

A. Level 3 serves enhanced service providers ("ESPs") and information service providers ("ISPs"), a subset of ESPs. ISPs require local connectivity to the PSTN and transport and termination services from Level 3, including modem banks and collocation space. ESPs and ISPs use the Level 3 network to pass all types of data, including email, web download services, computer-to-computer data transfer, VoIP and other streaming media. Level 3 also serves RBOCs, ILECs, CLECs, cable companies, DSL providers, governmental entities, and some large enterprise companies and other carriers with transport and termination of voice and data traffic.

Qwest does the same. As I explained in Level 3's initial technical presentation, when an ISP purchases Level 3's (3)Connect® Managed Modem Product they are buying a bundled product that provides multiple components. Those components are:

- Direct Inward Dialing (DID) Service in the Local Calling Area
- Transport from the Local Calling Area to the Level 3 network
- Conversion of the TDM based modem connection to IP

- Authentication Services
- Operations Support
- Access to the Internet

End users who still require dial up access to the Internet – whether for reasons of availability or price - require access to such local numbers at the local level because none can afford or are willing to pay Toll Charges to reach the Internet. Neither Level 3 nor its ISP customers assess toll charges on dialup customers. As illustrated by Level 3/703, Greene/1-2 and proven by Level 3/719, Greene/1-17, Level 3 fulfills Oregon requirements by extending its network into each Oregon Local Calling Area. The network end point therefore, defines where Level 3's network provides ISPs with Direct Inward Dial access because each telephone number is routed to a DS-1 under Level 3's ownership and/or control. Each of the DS-1 circuits Level 3 utilizes is routed to our switching platform where the calls are converted to IP and sent to the Internet. Qwest uses the same architecture to provide its wholesale service by also extending its network into the Local Calling Area and backhauling the circuits to their switching platform. The only difference in the two companies' architectures for this service is that Qwest chooses to use D Channel PRI signaling in the DS-1s it provisions for DID service while Level 3 uses what Level 3 considers is a more robust SS7 signaling solution for the DID call quality, routing and service control. Table 1, below, summarizes these network similarities and differences.

Table 1

Component	Function	Level 3	Qwest
DID Number Blocks	Provides group of numbers to a customer to	**SAME:** Secures own Numbers	**SAME:** Secures own Numbers

	use	from NANPA	from NANPA
Multiplexer	Allows multiple circuits to be aggregated on a larger circuit for more efficient transport	**SAME:** Owns and Leases	**SAME:** Owns and Leases
Private Line Transport	Provides connectivity for services from one area to another	**SAME:** Owns and Leases	**SAME:** Owns and Leases
Signaling	Allows for call management	**SAME:** SS7 signaling	**SAME:** PRI D Channel signaling is a subset of SS7 signaling.

This is no different than how Qwest provides such services.[4] As Qwest states in response to Level 3 discovery request numbers 3.g. and 13.a, Qwest's affiliate merely "purchases" a Primary Rate Interface line from its fellow corporate subsidiary Qwest,

[4] For a full description of Qwest's Wholesale Dial product, see Qwest's webpage at the following: http://www.qwest.com/wholesale/pcat/wholesaledial.html

which for Qwest establishes "physical presence".[5] But there is no difference between Level 3's network configuration and the configuration Qwest sells to its subsidiary. This is illustrated in Level 3/702, Greene/1-2 which resulted from the technical conference.

Q. CAN YOU DESCRIBE ON A CALL BY CALL BASIS HOW LEVEL 3 PROVIDES WHOLESALE DIALUP SERVICES IN OREGON?

A. Yes. Further to illustrating the technical details of how these networks operate, I have attached a series of diagrams.[6] Each contains a diagram with specific explanation of how each call is provided. Because this information is highly specific and competitively sensitive, it is provided subject to the Protective Orders issued in ARB 665 and IC 12.

Q. PLEASE DESCRIBE HOW LEVEL 3 AND QWEST COMPETE FOR THE PROVISION OF WHOLESALE ISP SERVICES.

A. As Level 3 explained at the technical conference and in its technical filings, Level 3 does not deploy "modem banks" to accept calls to ISPs for dial up service. The term "Modem Bank" is archaic in this industry. No one, not even Qwest, deploys "modem banks". Unlike Qwest, however, Level 3's Media Gateways manage modem and dialup traffic simultaneously. While Qwest deploys gear regionally, it does not use gear capable of also supporting VoIP, though Qwest will not explain where or how their VoIP service is provisioned. Level 3's Media Gateways also interface with our Soft Switch Architecture as well as with Level 3's SS7 signaling systems to provide greater functionality more efficiently. This allows Level 3 to increase the density and number of ports that these devices support, which is efficient, driving down costs.

---

[5] See Qwest Response to Level 3's Data Request Number 3(g) and 13(a), attached hereto as Level 3/716, Greene/1-31.

[6] See Level 3/704, Greene/1; Level 3/705, Greene/1: Level 3/706, Greene/1; Level 3/707, Greene/1; Level 3/708, Greene/1-2; Level 3/709, Greene/1-2; Level 3/710, Greene/1; and Level 3/711, Greene/1-2.

Q. CAN YOU DESCRIBE ON A CALL BY CALL BASIS HOW LEVEL 3 PROVIDES VoIP SERVICES IN OREGON?

A. Yes. Further to illustrating the technical details of how these networks operate, I have attached a series of diagrams[7]. Each contains a diagram with specific explanation of how each call is provided. Because this information is highly specific and competitively sensitive, it is provided subject to the Protective Orders issued in ARB 665 and IC 12.

Q. PLEASE DESCRIBE HOW LEVEL 3 AND QWEST COMPETE FOR THE PROVISION OF WHOLESALE VoIP SERVICES.

A. As Level 3 explained at the technical conference and in its technical filings, both and Qwest (and/or QCC) and Level 3 utilize the same network architectures to provide these services to providers nationwide. The call flow paths are the same; network utilization and expense incurred are the same and Level 3 exchanges virtually all of this traffic on a local basis with Qwest. Accordingly, imposing greater costs in the form of network configurations or imposing upon Level 3 higher compensation makes no sense and harms competition.

Q. BASED UPON YOUR UNDERSTANDING OF THE QWEST NETWORK, DO QWEST AND LEVEL 3 UTILIZE FUNCTIONALLY THE SAME NETWORK ARCHITECTURE TO TRANSPORT AND TERMINATE ISP BOUND TRAFFIC?

A. Yes. From a technical perspective, Level 3's use of a POI and/or direct end office transport to assume responsibility for the transport and termination of ISP-bound traffic is not materially different than Qwest and its subsidiaries use of PRIs for the same function. The "difference" raised by Qwest is insubstantial. Stated another way, there is no functional difference between Qwest and Level 3's architecture for the provision of these competing services.

[7] See Level 3/704, Greene/1; Level 3/705, Greene/1: Level 3/706, Greene/1; Level 3/707, Greene/1; Level 3/708, Greene/1-2; Level 3/709, Greene/1-2; Level 3/710, Greene/1; and Level 3/711, Greene/1-2.

Q. BASED UPON YOUR UNDERSTANDING OF THE QWEST NETWORK, DO QWEST AND LEVEL 3 UTILIZE FUNCTIONALLY THE SAME NETWORK ARCHITECTURE TO TRANSPORT AND TERMINATE VOIP TRAFFIC?

A. Yes. From a technical perspective, Level 3's use of a POI and/or direct end office transport to assume responsibility for the transport and termination of VoIP traffic is not materially different than Qwest and its subsidiaries use of PRIs for the same function. The "difference" raised by Qwest is insubstantial. Stated another way, there is no functional difference between Qwest and Level 3's architecture for the provision of these competing services.

Q. SIMILARLY BASED UPON YOUR UNDERSTANDING, DO LEVEL 3s ISP AND ESP CUSTOMERS NEED LEVEL 3 TO PROVIDE THEM WITH THE ABILITY TO RECEIVE TRAFFIC FROM QWEST?

A. Yes.

Q. MR. WILSON EXPLAINS PRIMARY AND SECONDARY POIS IN HIS TESTIMONY. DOES LEVEL 3 PAY QWEST FOR SECONDARY POIs?

A. Yes. Level 3 pays significant sums to establish secondary POIs throughout Oregon with Qwest. Yes, we establish a POI from one of our network end points that Level 3 has built using it's own facilities, leased facilities and or collocation from Qwest, or leased facilities and or collocation from a CLEC. We use the network end points not only to support the POI for interconnection with other carriers such as Qwest but to also support direct network loops to our customer's locations in the area. Moreover, as I've explained above, these POIs serve VoIP, ISP-dialup traffic as well. And as I explain below, these POIs could easily support our ability to compete in national markets for low cost termination of long distance traffic. This ability is important to Level 3 because we are competing with major IXCs now backed by ILECs who own vast stretches of their own infrastructure (*e.g.* AT&T can terminate for free in SBC territory – over one thirds of the

end user lines in the nation; MCI can do the same with the other third and Qwest can use its own subsidiary – QCC – to do the same in Qwest territory).

In Oregon we established primary POIs, or as I stated in my previous technical submission, network end points, in the major metropolitan areas. We illustrate primary POIs as red dots on the map attached as Level 3/703, Greene/1-2. I've also attached a list as Level 3/719, Greene/1-17 showing each and every circuit ID for the primary POIs we've established with Qwest and all of the secondary POIs we pay for in additional Qwest local calling areas throughout Oregon. These Circuit IDs correspond to the blue dots on the Oregon map showing Level 3's Oregon network, which we've provided as Level 3/703, Greene/1-2. I should note that we pay Qwest for local backhaul even within local calling areas where we have established primary POIs, as was illustrated in Diagram 5 of my Statement of Technical Facts filed on February 14, 2006. Given that Level 3 already has established primary POIs in these areas, it doesn't make a lot of sense to pay Qwest to terminate traffic to Level 3 within those local calling areas where such POIs are established.

V. BILLING BASED UPON FACTORS – ALLOWING LEVEL 3 TO USE EXISTING NETWORK ASSETS FOR THE COMPETITIVE PROVISION OF LONG DISTANCE TERMINATION

Q. WHAT IS LEVEL 3'S POSITION ON THIS ISSUE?

A. As Mr. Wilson explains in detail, Level 3 and Qwest are perfectly capable of exchanging locally dialed traffic as well as all forms of traffic (including traditional circuit switch "interexchange" or "switched access" traffic) over Level 3's existing and extensive interconnection network. Qwest's requirement for Feature Group D ("FGD") trunks is unnecessary and duplicative.

Q. WHY DOES LEVEL 3 WANT TO EMPLOY THIS ARCHITECTURE WITH QWEST IN OREGON?

A. It makes good business sense and from a network perspective yields at least a 15% improvement in carrying capacity, but other efficiencies are realized as well. These were noted in Mr. Ducloo's direct testimony starting at about page 16. (*See* Level 3/300, Ducloo/Page 16).

Q. DOES LEVEL 3 EMPLOY THIS ARCHITECTURE WITH ANY OTHER CARRIER IN OREGON?

A. Yes. Level 3 and Verizon have exchanged traffic over a single interconnection network within the state of Oregon based upon Amendment Number 2 to the Verizon / Level 3 Interconnection Agreement filed with this Commission on December 30, 2004 and approved by Order No. 05-121 dated March 11, 2005.[8]

Q. IN THE COMMISSION APPROVED OREGON AGREEMENT YOU MENTION, DOES VERIZON REQUIRE THAT LEVEL 3 DEPLOY FEATURE GROUP D TRUNKS FOR THE EXCHANGE OF VOIP TRAFFIC?

A. No. Level 3 and Verizon have exchanged VoIP traffic over a single interconnection network which also handles ISP-bound traffic within the state of Oregon for quite some time.

Q. DOES VERIZON REQUIRE THAT LEVEL 3 DEPLOY FEATURE GROUP D TRUNKS FOR LEVEL 3'S TERMINATION OF IP-IN THE MIDDLE TRAFFIC?

A. No. Level 3 and Verizon also utilize existing co-carrier network assets for the termination of long distance traffic as well as VoIP and ISP-bound traffic.

[8] See Level 3/713, Greene/1-21.

Q. DO VERIZON AND LEVEL 3 BILL THE ISP-BOUND, VOIP, AND IP IN THE MIDDLE TRAFFIC THEY EXCHANGE OVER A SINGLE TRUNKING NETWORK USING FACTORS?

A. Yes. Level 3 and Verizon utilize verifiable traffic factors that are sampled and updated monthly.

Q. DOES VERIZON PAY LEVEL 3 RECIPROCAL COMPENSATION FOR THE TERMINATION OF ISP-BOUND TRAFFIC?

A. Yes. Based upon Level 3's agreement to maintain existing POI structure at the tandem level within the state, Verizon agreed to continue to pay Level 3 for the termination of ISP-bound traffic within Oregon. When traffic reaches a level of 6 DS-1s Level 3 will build out to additional tandems. This agreement is reflected in Section 7.1 of the Amendment, which is contained within Level 3/713, Greene/1-21.

Q. LEVEL 3 ACQUIRED WILTEL IN LATE 2005. WILL THIS ACQUISITION HAVE ANY NEGATIVE EFFECT ON QWEST IF LEVEL 3 IS PERMITTED TO USE EXISTING CO-CARRIER NETWORK ASSETS TO TERMINATE IP IN THE MIDDLE TRAFFIC?

A. No. Existing and agreed upon contract provisions address network planning and engineering. There can be no tidal wave of traffic. First of call, it takes time to migrate traffic from one network to another. WilTel's network is quite different from Level 3's. Secondly, as I mentioned, the agreement provides for planning meetings, forecasting, call quality and ordering parameters designed to prevent disruption.

Q. WOULD COMMISSION ADOPTION OF QWEST'S PROPOSALS RADICALLY INCREASE LEVEL 3'S COSTS?

A. Yes. Based upon our calculations, if the Commission adopts Qwest's trunking and compensation proposals, Level 3 will go from receiving a small amount of money per month today to paying Qwest millions of dollars per month. To illustrate this, I've

detailed the net effect of Qwest's proposals based upon Level 3's March 2006 ISP Bound traffic counts as Level 3/712, Greene/1-2. Bottom line Level 3 would no longer be able to provide competitive local telecommunications services in Oregon, and one of the world's largest IP backbones supporting the next generation of communications services - VoIP – would be forced to exit this market. This could have a ripple effect outside of Oregon as these services are sold to major ESPs, telephone carriers, cable multi-system operators and others on a nationwide basis. That would leave only Qwest and Verizon – Level 3's primary competitors – standing in this market.

EXHIBIT A

LEVEL 3 NETWORK INTERCONNECTION AND ARCHITECTURE IN OREGON

Level 3 / Qwest Interconnection Architecture

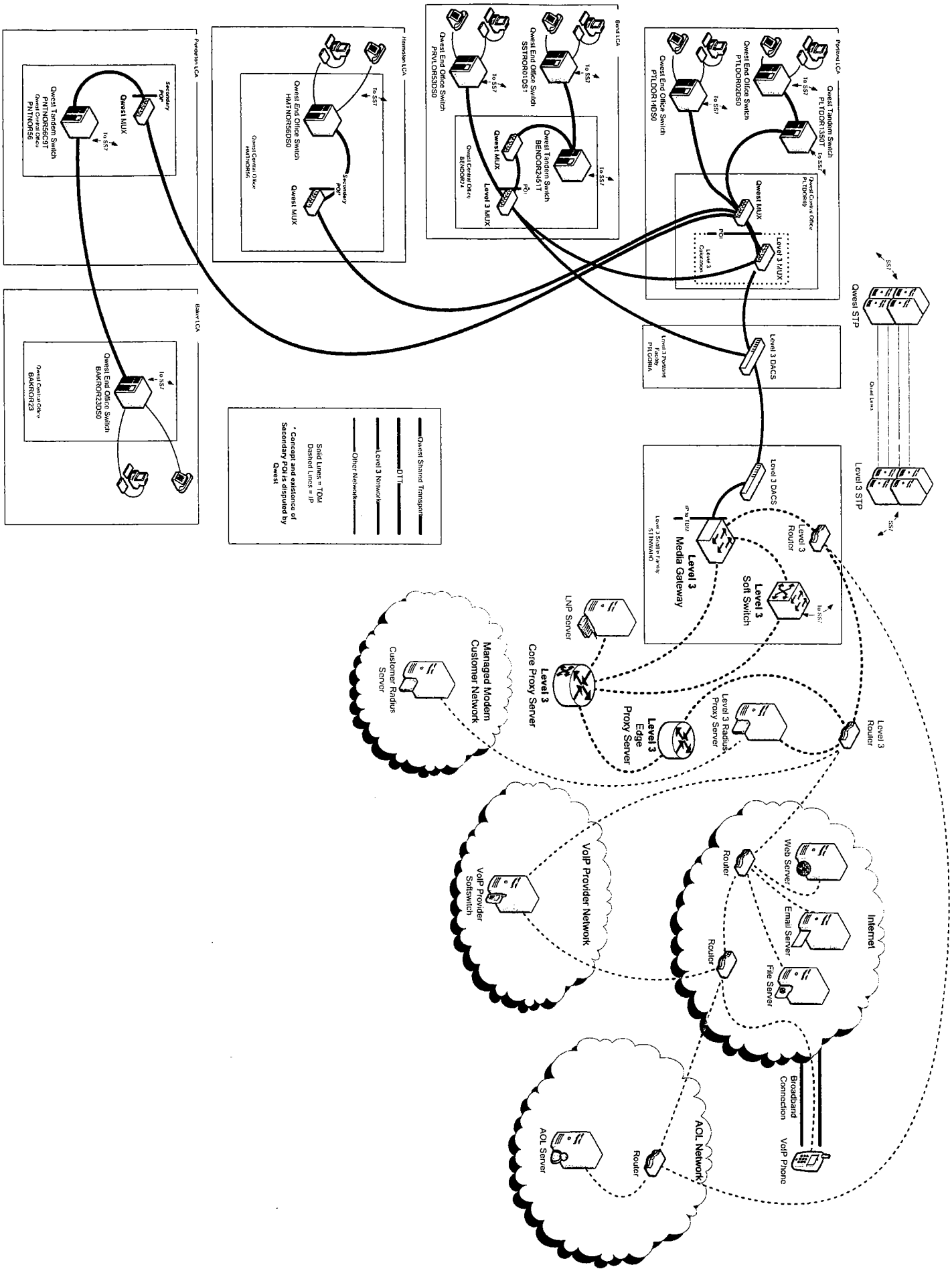

EXHIBIT B

LEVEL 3 NETWORK INTERCONNECTION: COMPARISON BETWEEN LEVEL 3 AND QWEST FACILITIES

QCC Wholesale Dial/Level 3 Managed Modem Comparison

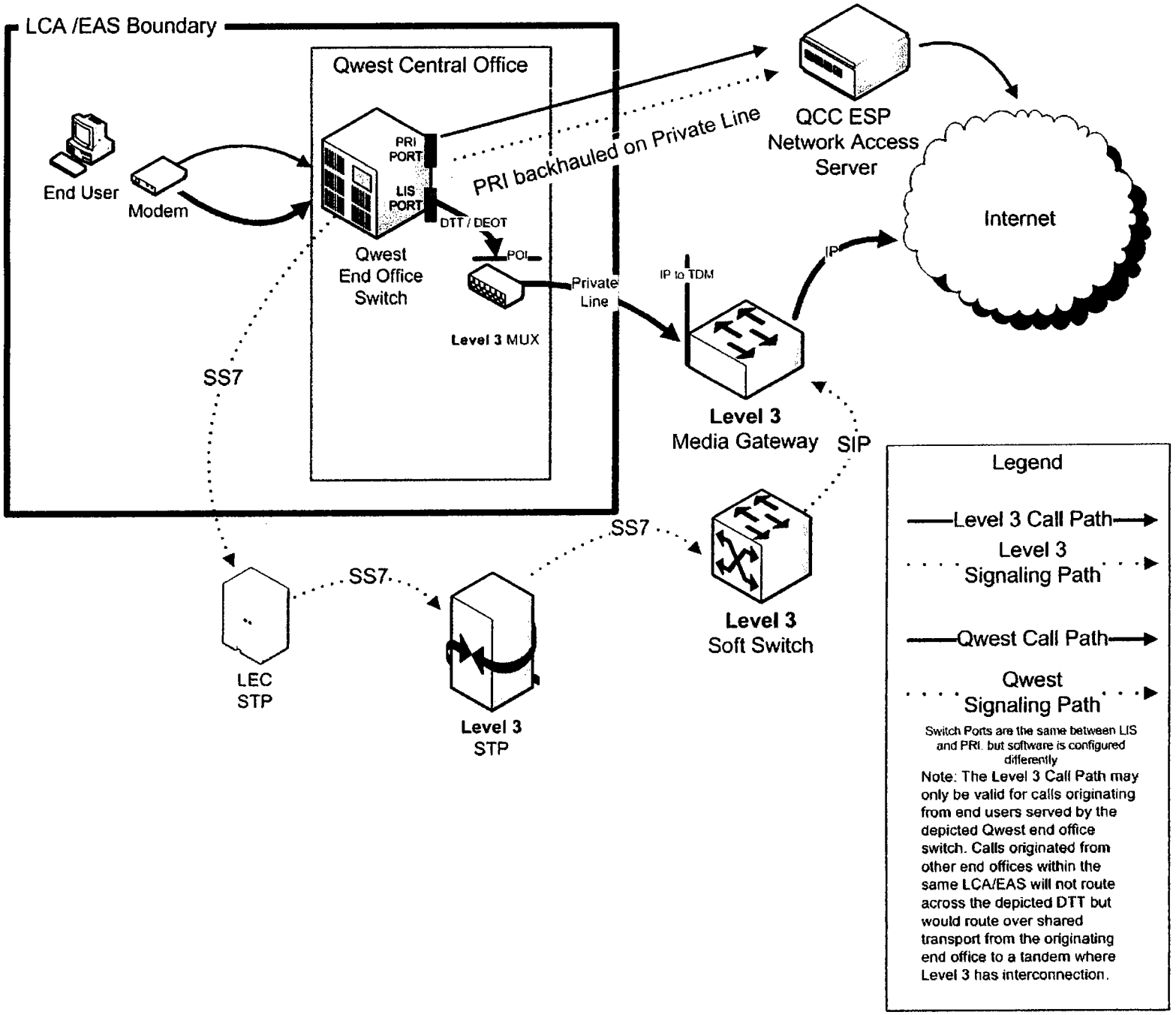

EXHIBIT M

Amendment Number 2 to the Verizon / Level 3 Interconnection Agreement filed with this Commission on December 30, 2004 and approved by Order No. 05-121 dated March 11, 2005.

ORDER NO. 05-121

ENTERED 03/11/05

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

ARB 311(2)

In the Matter of	)	
	)	
LEVEL 3 COMMUNICATIONS, LLC and VERIZON NORTHWEST INC.	)	ORDER
	)	
Second Amendment to Interconnection Agreement, Submitted for Commission Approval Pursuant to Section 252(e) of the Telecommunications Act of 1996.	)	

DISPOSITION: AMENDMENT APPROVED

On December 30, 2004, Level 3 Communications, LLC and Verizon Northwest Inc. filed a second amendment to the interconnection agreement previously acknowledged by the Public Utility Commission of Oregon (Commission) issued February 6, 2001, recognizing the adoption of ARB 5 terms, and the subsequent amendment approved by Order No. 02-696. The parties seek approval of the amendment under Section 252(e) of the Telecommunications Act of 1996. The Commission provided notice by posting an electronic copy of the amendment on the World Wide Web, at: http://www.puc.state.or.us/caragmnt/. Only the Commission Staff (Staff) filed comments.

Under the Act, the Commission must approve or reject an agreement reached through voluntary negotiation within 90 days of filing. The Commission may reject an agreement only if it finds that:

(1) the agreement (or portion thereof) discriminates against a telecommunications carrier not a party to the agreement; or

(2) the implementation of such agreement or portion is not consistent with the public interest, convenience, and necessity.

An interconnection agreement or amendment thereto has no effect or force until approved by a state Commission. *See* 47 U.S.C. Sections 252 (a) and (e). Accordingly, the effective date of this filing will be the date the Commission signs an order approving it, and any provision stating that the parties' agreement is effective prior to that date is not enforceable.

Staff recommended approval of the amendment. Staff concluded that the amendment to the previously acknowledged agreement does not appear to discriminate against telecommunications carriers who are not parties to the agreement and does not appear to be inconsistent with the public interest, convenience, and necessity.

OPINION

The Commission adopts Staff's recommendation and concludes that there is no basis under the Act to reject the amendment to the previously acknowledged agreement. No participant in the proceeding has requested that the amendment be rejected or has presented any reason for rejection. Accordingly, the amendment should be approved.

CONCLUSIONS

1. There is no basis for finding that the amendment to the previously acknowledged agreement discriminates against any telecommunications carrier not a party to the agreement.
2. There is no basis for finding that implementation of the amended agreement is not consistent with the public interest, convenience, and necessity.
3. The amendment should be approved.

ORDER

IT IS ORDERED that the amendment to the previously acknowledged agreement between Level 3 Communications, LLC and Verizon Northwest Inc. is approved.

Made, entered, and effective on MAR 1 1 2005.

Michael Grant
Chief Administrative Law Judge
Administrative Hearings Division

A party may request rehearing or reconsideration of this order pursuant to ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-014-0095. A copy of any such request must also be served on each party to the proceeding as provided by OAR 860-013-0070(2). A party may appeal this order to a court pursuant to applicable law.

AMENDMENT NO. 2

to the

INTERCONNECTION AGREEMENT

between

VERIZON NORTHWEST INC., F/K/A GTE NORTHWEST INCORPORATED
and

LEVEL 3 COMMUNICATIONS, LLC

This Amendment No. 2 (the "Amendment") shall be deemed effective on the "Effective Date" by and between Verizon Northwest Inc., f/k/a GTE Northwest Incorporated ("Verizon"), a Washington corporation with offices at 1800 41st Street, Everett, WA 98201, and Level 3 Communications, LLC, a Delaware limited liability company with offices at 1025 Eldorado Boulevard, Broomfield, Colorado 80021 ("Level 3"). Verizon and Level 3 may hereinafter be referred to collectively as the "Parties" and individually as a "Party". This Amendment covers services in the State of Oregon.

WITNESSETH:

WHEREAS, pursuant to an adoption letter dated December 9, 2000 (the "Adoption Letter"), Level 3 adopted in the State of Oregon, the interconnection agreement between AT&T Communications of the Pacific Northwest, Inc. and Verizon (such Adoption Letter and underlying adopted interconnection agreement referred to herein collectively as the "Agreement"); and

WHEREAS, the Parties wish to amend the Agreement to reflect their agreement on intercarrier compensation and interconnection architecture as set forth in Attachment A to this Amendment.

NOW, THEREFORE, in consideration of the mutual promises, provisions and covenants herein contained, the sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. The Parties agree that the terms and conditions set forth in Attachment A shall govern

the Parties' mutual rights and obligations with respect to intercarrier compensation and interconnection architecture.

2. Conflict between this Amendment and the Agreement. This Amendment shall be deemed to revise the terms and provisions of the Agreement to the extent necessary to give effect to the terms and provisions of this Amendment. In the event of a conflict between the terms and provisions of this Amendment and the terms and provisions of the Agreement, this Amendment shall govern, *provided, however,* that the fact that a term or provision appears in this Amendment but not in the Agreement, or in the Agreement but not in this Amendment, shall not be interpreted as, or deemed grounds for finding, a conflict for purposes of this Section 2.

3. Counterparts. This Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original and all of which together shall constitute one and the same instrument.

4. Captions. The Parties acknowledge that the captions in this Amendment have been inserted solely for convenience of reference and in no way define or limit the scope or substance of any term or provision of this Amendment.

5. Scope of Amendment. This Amendment shall amend, modify and revise the Agreement only to the extent set forth expressly in Section 1 of this Amendment, and, except to the extent set forth in Section 1 of this Amendment, the terms and provisions of the Agreement shall remain in full force and effect after the Effective Date.

SIGNATURE PAGE

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be executed.

LEVEL 3 COMMUNICATIONS, LLC

By: _____

Printed: LaCharles Keesee

Title: Vice President - Wholesale Voice Services

10/20/2004

VERIZON NORTHWEST INC.

By: _____

Printed: Jeffrey A. Masoner

Title: Vice President - Interconnection Services

Attachment A

1. Definitions. For the purposes of this Attachment, the following terms shall have the meanings provided below.

(a) "Act" means the Communications Act of 1934 (47 U.S.C. Section 151 et. seq.), as amended from time to time (including, but not limited to, by the Telecommunications Act of 1996).

(b) A "Call Record" shall include identification of any VOIP Traffic as VOIP Traffic, as well as at least one of the following: charge number, Calling Party Number ("CPN"), or Automatic Number Identifier. In addition, a "Call Record" may include any other information agreed upon by both Parties to be used for identifying the jurisdiction of the call or for assessing applicable intercarrier compensation charges. If the Forbearance Order and/or the FCC VOIP Order (as such terms are defined in Section 3.2) render this definition of "Call Record" to be inapplicable for the purpose of determining the jurisdiction of the call, the Parties will negotiate to agree upon any other information to be used prospectively for identifying the jurisdiction of a call and/or for assessing applicable intercarrier compensation charges as a replacement for charge number, CPN, or ANI.

(c) "Compensable Base" means the total combined minutes of use of ISP-Bound Traffic and Local Traffic originated by Verizon to Level 3 from July 1, 2002 through June 30, 2003 in all jurisdictions, that Verizon has agreed in writing are subject to intercarrier compensation. Any minutes of use that Verizon has not agreed are subject to intercarrier compensation, or as to which there remains an outstanding billing dispute between the Parties, shall not be included in the Compensable Base.

(d) "End User" means a third party residence or business end-user subscriber to Telephone Exchange Services, as such term is defined in the Act, provided by either of the Parties.

(e) "Effective Date" means April 1, 2004.

(f) "End Office" means a switching entity that is used to terminate End User station loops for the purpose of interconnection to each other and to trunks.

(g) "Extended Local Calling Scope Arrangement" means an arrangement that provides a End User a local calling scope (Extended Area Service, "EAS"), outside the End User's basic exchange serving area. Extended Local Calling Scope Arrangements may be either optional or non-optional. "Optional Extended Local Calling Scope Arrangement Traffic" is traffic that under an optional Extended Local Calling Scope Arrangement chosen by the End User terminates outside of the End User's basic exchange serving area.

(h) "Exchange Access" shall have the meaning set forth in the Act.

(i) *Intentionally left blank.*

(j) "Information Access" means the provision of specialized exchange Telecommunications Services in connection with the origination, termination, transmission, switching, forwarding or routing of Telecommunications traffic to or from the facilities of a provider of information services, including an Internet service provider.

(k) "Information Service" shall have the meaning set forth in the Act.

(l) "ISP-Bound Traffic" means any Telecommunications traffic originated on the public switched telephone network ("PSTN") on a dial-up basis that is transmitted to an internet service provider at any point during the duration of the transmission, including V/FX Traffic that is transmitted to an internet service provider at any point during the duration of the transmission, but not including VOIP Traffic.

(m) "LERG" or "Local Exchange Routing Guide" means a Telcordia Technologies reference containing NPA/NXX routing and homing information.

(n) "Local Traffic" consists of Telecommunications traffic for which compensation is required by both Section 251(b)(5) of the Act and 47 C.F.R Part 51; and, for the avoidance of any doubt, the following types of traffic, among others, do not constitute Local Traffic under the terms of this Agreement: ISP-Bound Traffic; Telecommunications traffic that is interstate or intrastate Exchange Access, Information Access, or exchange services for Exchange Access or Information Access; toll traffic, including, but not limited to, calls originated on a 1+ presubscription basis, or on a casual dialed (10XXX/101XXXX) basis; Optional Extended Local Calling Scope Arrangement Traffic; special access, private line, frame relay, ATM, or any other traffic that is not switched by the receiving party; tandem transit traffic; V/FX Traffic; voice Information Service traffic; or VOIP Traffic.

(o) "NXX or "NXX Code" means the three-digit switch entity indicator (i.e. the first three digits of a seven-digit telephone number).

(p) "Switched Exchange Access Service" means the offering of transmission and switching services for the purpose of the origination or termination of toll traffic. Switched Exchange Access Services include but may not be limited to: Feature Group A, Feature Group B, Feature Group D, 700 access, 800 access, 888 access and 900 access.

(q) "Tandem" or "Tandem Switch" means a physical or logical switching entity that has billing and recording capabilities and is used to connect and switch trunk circuits between and among End Office Switches and between and among End Office Switches and carriers' aggregation points, points of termination, or points of presence, and to provide Switched Exchange Access Services.

(r) "Telecommunications" shall have the meaning set forth in the Act.

(s) "Telecommunications Carrier" shall have the meaning set forth in the Act.

(t) "Virtual Foreign Exchange Traffic" or "V/FX" Traffic means a call to an End User assigned a telephone number with an NXX Code (as set forth in the LERG) associated with an exchange that is different than the exchange (as set forth in the LERG) associated with the actual physical location of such End User's station.

(u) "VOIP Traffic" means voice communications that are transmitted in whole or in part over packet switching facilities using Internet Protocol or any similar packet protocol. For avoidance of doubt, VOIP Traffic does not include ISP-Bound Traffic that is not used to generate voice traffic to or from the PSTN.

(v) "Wire Center" means a building or portion thereof which serves as the premises for one or more Central Office Switches and related facilities.

2. General/Term. Notwithstanding any change to Applicable Law effected after the Effective Date (and not withstanding any provision in the Agreement governing the Parties' rights or obligations in the event of such a change in Applicable Law), subject to compliance with Sections 6 and 7 below, and provided that there are no outstanding billing disputes between the Parties with respect to intercarrier compensation charges billed by either Party prior to the Effective Date with respect to Local Traffic, ISP-Bound Traffic or switched access traffic, the terms set forth in subsections 2.1-2.4 below shall govern the Parties' rights and obligations regarding compensation for ISP-Bound Traffic and Local Traffic. If there are outstanding billing disputes between the Parties with respect to intercarrier compensation charges billed by either Party prior to the Effective Date with respect to Local Traffic, ISP-Bound Traffic or switched access traffic, then subsections 2.1-2.4 below shall not apply and compensation for ISP-Bound Traffic and Local Traffic exchanged between the Parties shall be governed by the following: (i) an intercarrier compensation rate of zero ($0) shall apply to ISP-Bound Traffic delivered by Verizon to Level 3 and (ii) Verizon's then-prevailing reciprocal compensation rates in each particular service territory (as set forth in Verizon's standard price schedules, as amended) shall apply to ISP-Bound Traffic delivered by Level 3 to Verizon and to all Local Traffic exchanged between the Parties. For purposes of the preceding sentence only, all Local and ISP-Bound Traffic above a 2:1 ratio shall be considered to be ISP-Bound Traffic.

2.1 Intercarrier Compensation for ISP-Bound Traffic and Local Traffic. Commencing on the Effective Date, and continuing prospectively for the applicable time periods described below, when ISP-Bound Traffic or Local Traffic is originated by an End User of a Party on that Party's network (the "Originating Party") and delivered to the other Party (the "Receiving Party") for delivery to an End User of the Receiving Party, the Receiving Party shall bill and the Originating Party shall pay intercarrier compensation at the following equal and symmetrical rates: $.0005 per minute of use for

the period beginning on the Effective Date and ending on December 31, 2004, $.00045 per minute of use for the period beginning January 1, 2005 and ending on December 31, 2005, $.0004 per minute of use for the period beginning January 1, 2006 and ending upon the effective date of termination of this Section 2.1 (collectively, the "Intercarrier Compensation Rates"); ***provided, however***, that Verizon shall be under no obligation to pay any intercarrier compensation to Level 3 on Local Traffic or ISP-Bound Traffic insofar as the total combined minutes of use of such traffic originated by Verizon to Level 3 in all jurisdictions in which the Parties exchange traffic exceeds the Compensable Base by the following threshold percentages during each of the specified calendar years: 175% for 2004, 200% for 2005, 225% for 2006, and 225% for any calendar year subsequent to 2006 in which this Section 2.1 remains in effect.

2.2 The Intercarrier Compensation Rates shall not apply to V/FX Traffic that is not ISP-Bound Traffic, which such other V/FX Traffic shall be subject to applicable Switched Exchange Access Service tariff charges; provided, however, that the Parties do not agree on the compensation due for the exchange of VOIP Traffic that may constitute V/FX Traffic under Section 1(t) ("V/FX VOIP Traffic"). Pending resolution of the Parties' dispute on the compensation due for V/FX VOIP Traffic, Level 3 shall pay at least the Intercarrier Compensation Rates to Verizon for V/FX VOIP Traffic (other than V/FX VOIP Traffic addressed in Section 3.1, as to which interstate access charges shall apply) that it delivers to Verizon (in doing so, but without any probative value as to the substance of either Party's position on the appropriate compensation due on V/FX VOIP Traffic, Level 3 may dispute access or intercarrier compensation charges billed by Verizon in excess of the Intercarrier Compensation Rates). The Parties hereby agree that, as of the Effective Date, they are exchanging only a de minimis amount of V/FX Traffic that is not ISP-Bound Traffic; the Parties further agree that, from time to time, upon written request from either Party, the other Party shall review with the requesting Party whether the amount of such V/FX Traffic that is not ISP-Bound Traffic exchanged between them remains de minimis. For avoidance of doubt, the Intercarrier Compensation Rates also shall not apply to VOIP Traffic, except as set forth in this paragraph or to the extent otherwise required by Section 3 below.

2.3 Notwithstanding anything else in this Attachment, and except as otherwise provided in this Section 2.3, if Level 3 fails to comply with Sections 6 and 7 of this Attachment, the Intercarrier Compensation Rates set forth in this Section 2 shall not apply to ISP-Bound Traffic and Local Traffic delivered by Verizon to Level 3. Instead, the applicable intercarrier compensation rate for such ISP-Bound Traffic and Local Traffic delivered by Verizon to Level 3 shall be zero ($0) effective on the date Verizon provides Level 3 written notice detailing the specific facts and documentation supporting its position of non-compliance with Sections 6 and 7 of this Attachment ("Non-Compliance Notice") and continuing until the earlier of a determination by Verizon that Level 3 is in compliance with Sections 6 and 7 of this Attachment or termination of Sections 2 and 3 of this Attachment, as provided in Section 4 below. If Level 3 disagrees with the non-compliance finding, Level 3 shall respond in writing to Verizon within ten

business days of receipt of the Non-Compliance Notice with: (i) facts and documentation supporting its position and (ii) the name of an individual who will serve as Level 3's representative for purposes of negotiating resolution of the non-compliance dispute ("Level 3 Response"). Verizon shall have ten business days from receipt of the Level 3 Response to designate its representative to the negotiation, and shall continue to make payments during the Negotiation Period (as defined below) as though the Intercarrier Compensation Rates in this Section 2 continued to apply. The Parties' representatives shall meet at least once within 45 days after the date of the Level 3 Response in an attempt to reach a good faith resolution of the dispute. Upon agreement, the Parties' representatives may utilize other alternative dispute resolution procedures such as private mediation to assist in the negotiations. If the Parties have been unable to resolve the dispute within 45 days of the date of the Level 3 Response ("Negotiation Period"), either Party may pursue any remedies available to it under the Agreement, at law, in equity, or otherwise, including, but not limited to, instituting an appropriate proceeding before the Commission, the FCC, or a court of competent jurisdiction; ***provided, however***, that if the matter is resolved with a finding that Level 3 was not in compliance with Sections 6 and 7 of this Attachment, Level 3 shall refund any payments of the Intercarrier Compensation Rates made by Verizon during the Negotiation Period.

2.4 In the event that Verizon should continue to offer or provide unbundled network element platforms ("UNE-P") after the Effective Date, the Intercarrier Compensation Rates shall not apply to any traffic involving Level 3 End Users served by UNE-P, and the Parties instead will negotiate in good faith to conclude mutually acceptable provisions governing intercarrier compensation associated with traffic to Level 3 End Users served by UNE-P.

3. VOIP Traffic.

3.1 Agreement to Comply with FCC Declaratory Ruling. The Parties agree that VOIP Traffic that originates on and terminates to the PSTN shall be subject to interstate access charges, as set forth in the FCC's Order, *In the Matter of Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, FCC 04-97, WC Docket No. 02-361 (released April 21, 2004) ("AT&T Order") unless and until the AT&T Order is modified in the Forbearance Order and/or the FCC VOIP Order (as such terms are defined in Section 3.2), in which case the Parties will negotiate an amendment to this Attachment to apply prospectively from the date of such Forbearance Order and/or the FCC VOIP Order addressing intercarrier compensation for the VOIP Traffic described in this Section 3.1.

3.2 Other VOIP Traffic. Except as provided in Section 3.1, the Parties do not agree on the compensation due for the exchange of VOIP Traffic. Accordingly, until such time as the FCC issues a substantive order in WC Docket No. 04-36 (FCC 04-28) on what compensation is due for the exchange of VOIP Traffic ("FCC VOIP Order") and such order becomes effective, Level 3 shall: (i) identify and track all VOIP Traffic that either

originates or terminates on the PSTN and (ii) pay at least the Intercarrier Compensation Rates to Verizon for VOIP Traffic other than VOIP Traffic addressed in Section 3.1 that it delivers to Verizon (in doing so, but without any probative value as to the substance of either Party's position on the appropriate compensation due on VOIP Traffic, Level 3 may dispute access or intercarrier compensation charges billed by Verizon in excess of the Intercarrier Compensation Rates) . Upon effectiveness of the FCC VOIP Order, such FCC VOIP Order shall be applied prospectively from the effective date of the FCC VOIP Order and retroactively to the Effective Date (taking into account intercarrier compensation payments made on VOIP Traffic under the preceding sentence); ***provided, however***, that if a Party has filed a forbearance proceeding at the FCC addressing whether access charges should apply to VOIP Traffic originating or terminating on the PSTN, such as Level 3's filing of a petition for forbearance in Docket No. 03-266 ("Forbearance Proceeding"), then if the FCC issues an order in such Forbearance Proceeding or the petition for forbearance otherwise becomes effective (in either case, the "Forbearance Order") prior to issuance of the FCC VOIP Order, the Parties agree to apply the results of the Forbearance Order to the VOIP Traffic defined in the Forbearance Order prospectively from the effective date of the Forbearance Order and retroactively to the Effective Date until such time as the FCC VOIP Order is issued (taking into account intercarrier compensation payments made on VOIP Traffic under the preceding sentence), at which time such FCC VOIP Order shall be applied to the VOIP Traffic defined in the FCC VOIP Order prospectively from the effective date of the FCC VOIP Order (such implementation of a Forbearance Order and/or the FCC VOIP Order, the "VOIP Order Application"); ***provided, further*** that if VOIP Traffic is treated as Information Service traffic or as Local Traffic (either substantively or for compensation purposes only) by the Forbearance Order and/or the FCC VOIP Order, then for purposes of implementing such order(s) as part of the VOIP Order Application only (and only so long as the Forbearance Order and/or the FCC VOIP Order are in effect), VOIP Traffic terminated to or originated on the PSTN shall be subject to a rate of $.0007 per minute of use except to the extent the amount of VOIP Traffic delivered by Verizon to Level 3 exceeds the amount of VOIP Traffic delivered by Level 3 to Verizon in a monthly billing period by more than 10% ("Imbalance Factor"), in which case for all VOIP Traffic delivered by Verizon to Level 3 during that billing period in excess of the Imbalance Factor, Level 3 shall bill and Verizon shall pay the Intercarrier Compensation Rates; and ***provided, further***, that Level 3 and Verizon expressly waive any grounds they may have to raise any timing limitation on back-billing implemented by the other Party to effectuate the VOIP Order Application.

4. Termination. Either Party may terminate Sections 2 and 3 of this Attachment effective on or after January 1, 2007 (such date, "Termination Effective Date") by providing nine (9) months advance written notice to the other Party if the notice is provided on or before November 30, 2006 or by providing thirty (30) days advance written notice to the other Party if the notice is provided on or after December 1, 2006 (in either case, the date such notice is provided shall be the "Termination Notice Date," which shall not be prior to

April 1, 2006), provided that in the event that either Party elects to exercise its right to terminate Sections 2 and 3 of this Attachment: (i) the Parties shall promptly amend the Agreement to govern intercarrier compensation between the Parties for Local Traffic and ISP-Bound Traffic, and any such amendment (whether negotiated, arbitrated or otherwise litigated) shall be effective as of the Termination Effective Date and (ii) the VOIP Order Application described in Section 3.2 of this Attachment shall not apply to any time period after the Termination Notice Date (but which VOIP Order Application, for avoidance of doubt, will continue to apply to all time periods between the Effective Date and the Termination Notice Date regardless of the issuance date of the Forbearance Order or FCC VOIP Order; provided, further, that Section 3.2 shall be included in any interconnection agreement or amendment (including adoptions) entered into by the Parties unless and until the VOIP Order Application has been implemented by the Parties).

5. Other Traffic.
Notwithstanding anything else in this Attachment, for traffic Level 3 delivers to Verizon that originates with a third carrier, except as may be subsequently agreed to in writing by the Parties, Level 3 shall pay Verizon the same amount that such third carrier would have paid Verizon for that traffic at the location the traffic is delivered to Verizon by Level 3.

6. Call Records. Each Party shall take steps to ensure that all calls (including VOIP traffic) that it delivers to the receiving Party include a Call Record, and that such Call Records are transmitted intact to the receiving Party. Neither Party shall: (i) remove Call Records, (ii) alter or replace Call Records, or (iii) insert or add any Call Record information (such as a Charge Number) that does not correspond to that of the calling party. Using its best efforts and to the extent technically feasible, each Party also shall undertake steps to ensure that any service provider who hands off traffic for delivery to the other Party does not: (i) remove Call Records, (ii) alter or replace Call Records, or (iii) insert or add any Call Record information (such as a Charge Number) that does not correspond to that of the calling party. Neither Party shall knowingly and intentionally (a) strip or alter Call Records to disguise the jurisdiction of a call or (b) permit third parties to do so for traffic the Party delivers to the other Party.

6.1 For billing purposes, each Party shall pass a Call Record on each call delivered to the other Party to the extent technically feasible. The Receiving Party shall bill the Originating Party the then-current Intercarrier Compensation Rate, intrastate Switched Exchange Access Service rates, or interstate Switched Exchange Access Service rates applicable to each relevant minute of traffic for which Call Records are passed based on the Call Records, or other information that allows the Receiving Party to determine the jurisdiction of the call in accordance with the provisions herein, as provided in this Attachment, the applicable interconnection agreement between the Parties or the Receiving Party's applicable tariffs.

6.2 If, the percentage of calls passed with Call Record information is greater than ninety percent (90%), all calls exchanged without Call Record information will be billed according

to the jurisdictional proportion of the calls passed with Call Record information. If the percentage of calls passed without Call Record information is less than ninety percent (90%), all calls without Call Record information up to (but not exceeding) ten percent (10%) of all calls, will be billed according to the jurisdictional proportion of the calls passed with Call Record information, and the remaining calls without Call Record information will be billed at intrastate Switched Exchange Access Service rates.

6.3 *Intentionally left blank.*

6.4 If the Receiving Party lacks the ability to use Call Records to classify on an automated basis traffic delivered by the other Party as either ISP-Bound Traffic or Local Traffic or toll traffic, the Originating Party will supply, at the request of the Receiving Party, an auditable Percent Local Usage ("PLU") report (including Local Traffic and ISP-Bound Traffic) quarterly, based on the previous three (3) months' traffic, and applicable to the following three (3) months' traffic. If the Originating Party also desires to combine interstate and intrastate toll traffic on the same trunk group, it will supply an auditable Percent Interstate Usage ("PIU") report quarterly, based on the previous three (3) months' terminating traffic, and applicable to the following three (3) months' traffic. In lieu of the foregoing PLU and/or PIU reports, the Parties may agree to provide and accept reasonable surrogate measures for an agreed-upon period.

6.5 Measurement of billing minutes for purposes of determining terminating compensation shall be in conversation seconds. The Parties agree that, in addition to any applicable audit provisions in their applicable interconnection agreement, each Party shall have the right to conduct, at its own cost, periodic (but in any case no more frequent than semi-annual) audits, on commercially reasonably terms and conditions, with respect to billings sent in connection with this Attachment; and the other Party agrees to reasonably cooperate with any such audits.

6.6 For avoidance of doubt, all of this Section 6 shall apply to VOIP Traffic exchanged between the Parties until such time as the VOIP Order Application is implemented pursuant to Section 3.2 above, at which time all of this Section 6 shall continue to apply to VOIP Traffic except as otherwise provided by implementation of the VOIP Order Application.

7. Points of Interconnection; Mutual POIs. Notwithstanding any other provision in the interconnection agreement between the parties, any applicable tariff or SGAT, or under Applicable Law, this Section shall set forth the Parties' respective rights and obligations with respect to interconnection architecture.

7.1 Mutual points of interconnection ("POIs") in each LATA in which the Parties exchange traffic shall be established as set forth in this Section 7.

(a) Level 3 shall establish at least one technically feasible point on Verizon's network in each of the Verizon Tandem serving areas in each LATA in which the Parties exchange traffic at which each Party shall deliver its originating traffic to the other Party (such a point, a "mutual POI"). Each mutual POI shall be at the relevant Verizon Tandem Wire Center, unless otherwise agreed to in writing by the Parties. Level 3 shall deliver traffic that is to be terminated through a Verizon End Office to the mutual POI at the Verizon Tandem Wire Center that such Verizon End Office subtends. Each mutual POI established under this Section 7.1(a) may be accomplished by Level 3 through: (1) a collocation site established by Level 3 at the relevant Verizon Tandem Wire Center, (2) a collocation site established by a third party at the relevant Verizon Tandem Wire Center, or (3) transport (and entrance facilities where applicable) ordered and purchased by Level 3 from Verizon at the applicable Verizon intrastate access rates and charges.

(i) The Parties may use the trunks delivering traffic to the mutual POI to deliver the following types of traffic between their respective Telephone Exchange Service End Users: Local Traffic, ISP-Bound Traffic, VOIP Traffic, tandem transit traffic, translated LEC IntraLATA toll free service access code (e.g., 800/888/877) traffic, and where agreed to between the Parties and as set forth in subsection (ii) below, IntraLATA and InterLATA toll traffic.

(ii) Under the architectures described in this Section 7, and subject to mutual agreement of the Parties, either Party may use the trunks delivering traffic to the mutual POI for the termination of intraLATA or interLATA toll traffic in accordance with the terms contained in this Section 7 and pursuant to the other Party's Switched Exchange Access Services Tariffs. If Level 3 seeks for Verizon to deliver intraLATA and interLATA presubscribed traffic originated by Verizon End Users to Level 3 over existing local interconnection architecture, Level 3 shall make a written request of Verizon, and subject to the mutual agreement of the Parties: (i) the Parties will evaluate the feasibility of transporting such traffic in this manner through testing and other means (in which case, all testing and development costs incurred by Verizon shall be borne by Level 3) and (ii) the Parties shall attempt in good faith to negotiate an amendment to this Attachment to address such traffic. When toll traffic is delivered over the same trunks as Local and/or ISP-Bound Traffic, any port, transport or other applicable access charges related to the delivery of toll traffic from the mutual POI on Verizon's network in a LATA to the terminating Party's End User shall be prorated so as to apply to the toll traffic.

(iii) Notwithstanding anything else in this Agreement, Interstate and

intrastate Exchange Access, Information Access, exchanges services for Exchange Access or Information Access, and toll traffic, shall be governed by the applicable provisions of this Attachment, the Agreement and applicable Tariffs.

(b) At any time that Level 3 has established a Collocation site at a Verizon End Office Wire Center, then either Party may request that such Level 3 Collocation site be established as a Mutual POI for traffic originated from or terminated to Verizon End Users served by an End Office in the Verizon End Office Wire Center.

(c) In any LATA in which there are fewer than two (2) Verizon Tandems, then in addition to the mutual POI at the Verizon Tandem Wire Center, Verizon may request and Level 3 shall establish an additional mutual POI at any Verizon End Office Wire Center: (i) at any time after the traffic exchanged between Level 3 and Verizon End Users served by the Verizon End Office reaches six (6) DS1s (approximately 1.3 million minutes of use per month) or (ii) at any Verizon End Office which is subtended by remote Verizon End Office(s) (any mutual POI located at a Verizon End Office Wire Center pursuant to this Section 7.1(c), an "Additional Mutual POI"). Verizon also may require the establishment of an Additional Mutual POI at a Verizon End Office other than the serving Verizon End Office, in which case Level 3 shall order Direct End Office Trunks ("DEOTs") from Verizon between the serving Verizon End Office and the Additional Mutual POI, with all costs of the portions of such DEOTs carrying Local Traffic and ISP-Bound Traffic to be borne by Verizon. In the situation described in the foregoing sentence, Level 3 shall be responsible for ordering and providing DEOTs on the Level 3 side of the Additional Mutual POI, with all costs of such DEOTs to be borne by Level 3. Level 3 shall establish any Additional Mutual POI requested by Verizon under this Section 7.1(c) within six (6) months of the date of the request, unless otherwise agreed to by the Parties. Each Additional Mutual POI requested under this Section 7.1(c) may be established by Level 3 through: (i) a collocation site established by Level 3 at the requested Verizon End Office Wire Center, (ii) a collocation site established by a third party at the requested Verizon End Office Wire Center, or (iii) transport (and entrance facilities where applicable) ordered and purchased by Level 3 from Verizon at the applicable Verizon intrastate access rates and charges. Each Party shall bear its own costs with respect to migration to Additional Mutual POIs established under this Section 7.1(c).

(d) For those Verizon End Offices that subtend a third party Tandem, Verizon may elect to exchange traffic through the third party Tandem or may designate a point on the Verizon network in the relevant Tandem serving area as the relevant mutual POI. Any point elected by Verizon under this Section 7.1(d) shall be the point at which the Intercarrier Compensation Rates shall be applied. If the designated mutual POI is not at the relevant Tandem, then Level 3 shall hand off direct non-switched trunks to

the relevant terminating Verizon End Offices at the mutual POI. For avoidance of doubt, nothing in this Section 7.1(d) shall alter Verizon's ability to require the establishment of Additional Mutual POIs under Section 7.1(c) above. If Verizon elects to exchange traffic through a third party Tandem under this Section 7.1(d), then any transiting, transport or fixed (as prorated) charges imposed by the third party shall be paid by the Party originating the traffic exchanged through the third party Tandem.

(e) Should Level 3 interconnect with any Telecommunications Carrier that is not a Party to this agreement at a point that is not a mutual POI under this Attachment, Verizon may elect to deliver traffic to such point(s) for the NXXs or functionalities served by those Points. To the extent that any such point is not located at a Collocation site at a Verizon Tandem (or Verizon Host End Office), then Level 3 shall permit Verizon to establish physical interconnection at the point, to the extent such physical interconnection is technically feasible.

7.2 Subject to subsections 7.4 and 7.6 below, neither Party may charge (and neither Party shall have an obligation to pay) any recurring fees, charges or the like (including, without limitation, any transport charges), with respect to ISP-Bound Traffic and Local Traffic that either Party delivers at a mutual POI, other than the Intercarrier Compensation Rates; ***provided, however,*** for the avoidance of any doubt, Level 3 shall also pay Verizon, at the rates set forth in an applicable interconnection agreement between the Parties or applicable Verizon Tariff for any multiplexing, cross connects or other Collocation-related services that Level 3 obtains from Verizon.

7.3 If the traffic destined for an End Office exceeds the CCS busy hour equivalent of two (2) DS1s for any three (3) months in a six (6) month period, Verizon may request Level 3 to order DEOTs to that End Office. Verizon shall be responsible for providing such DEOTs on the Verizon side of the mutual POI, with all costs of the portions of such DEOTs carrying Local Traffic and ISP-Bound Traffic to be borne by Verizon. Level 3 shall be responsible for ordering and providing such DEOTs on the Level 3 side of the mutual POI, with all costs of such DEOTs to be borne by Level 3. After initially establishing DEOTs pursuant to this subsection, traffic routed to this End Office will be allowed to overflow to the Tandem not to exceed the CCS busy hour equivalent of one (1) DS1. For avoidance of any doubt, neither Party will assess recurring and/or non-recurring charges for the implementation, installation, maintenance and utilization of interconnection trunks and facilities for the portions of such trunks carrying Local and ISP-Bound Traffic on its side of the mutual POI.

7.4 In those LATAs in which the Parties have previously established interconnection at POIs and/or are using interconnection transport and trunking architectures other than as set forth pursuant to the terms of Section 7.1(a), the interconnection transport and trunking architectures shall be governed by this Section 7.4.

(a) Verizon may require Level 3, via written notice to Level 3, to bring pre-existing interconnection arrangements into compliance with the terms of Section 7.1(a) through one of the following methods:

(i) Unless otherwise agreed in writing by the Parties, Level 3 shall implement a physical migration of the pre-existing arrangements to the terms prescribed herein within six (6) months of the date of such notice; or

(ii) In lieu of requiring physical rearrangements of pre-existing facilities or where the physical rearrangement has not been completed within six (6) months following such notice, the Parties shall implement a billing arrangement pursuant to which Level 3 shall pay Verizon for the transport (and entrance facilities if provided by Verizon) between each Verizon Tandem (or Additional Mutual POIs at Verizon End Offices in LATAs with less than two (2) Verizon Tandems) and the delivery to or from Level 3 at the Level 3 switch or other location, at the applicable Verizon intrastate access rates and charges.

(b) With respect to subsection 7.4(a) directly above, each Party shall bear its own costs with respect to any such migration; the Parties will coordinate any such migration, trunk group prioritization, and implementation schedule; and Verizon agrees to develop a cutover plan and to project manage the cutovers with Level 3 participation and agreement.

(c) *Intentionally left blank.*

(d) From and after the Effective Date, in any LATA where the Parties have not yet established mutual POIs or Additional Mutual POIs as described in Section 7.1(a) (including, without limitation, the situation presented in subsection 7.4(a) above), Level 3 shall not bill (and Verizon not have any obligation to pay) any fees, charges, or the like (including, without limitation, any transport charges) with respect to such arrangements, and to the extent that Level 3 utilizes transport provided by Verizon between the Level 3 network and the current point at which the Parties interconnect, Level 3 shall purchase such transport from Verizon at Verizon's tariffed intrastate access rates.

7.5 The Parties recognize that embedded one-way trunks may exist for the exchange of traffic between the Parties. To the extent either Party requires a transition of such one-way trunks to two-way trunks, the Parties agree to negotiate an amendment to set forth the terms and conditions for two-way trunks (if necessary), as well as to negotiate a transition plan to migrate the embedded one-way trunks to two-way trunks provided that Verizon shall bill, and Level 3 shall pay, the non-recurring charges for such conversions as set forth in Verizon's applicable tariffs.

7.6 Level 3 may apportion spare capacity on existing access entrance facilities (and/or transport where applicable) purchased by Level 3 between the relevant mutual POIs and/or the Level 3 switch as described in this Section 7; however, any such apportionment shall not affect the rates or charges applied to the relevant facilities.

VZ/Level 3 Unitary Compensation and Interconnection Architecture
Contract Amendments
Effective 4/1/04

Unitary Compensation Rate

- Applies to Local and ISP bound traffic (including VFX ISP traffic)
- $.0005/mou April 1-December 31 2004
- $.00045/mou January 1-December 31 2005
- $.0004/mou January 1 2006 through termination
- VZ payment for Local/ISP traffic mous capped based on volume of compensable mous sent to Level 3 between July 1 2002-June 30 2003; caps are 175% in 2004, 200% in 2005, 225% in 2006 and subsequent years
- Prerequisites to VZ payment: if there are outstanding billing disputes on the effective date, no compensation is to be paid for ISP traffic sent to L3 and reciprocal compensation rates apply to Local Traffic and ISP traffic from L3 to VZ; if L3 fails to comply with mutual POI architecture and/or call record requirements, then rate for traffic from VZ to L3 drops to zero (amendment sets dispute resolution process if L3 disagrees)
- Unitary rate does not apply to UNE P traffic

Compensation for VOIP Traffic

- VOIP traffic originating and terminating on the PSTN subject to interstate access (pursuant to FCC order released April 24 2004) subject to negotiation upon any change in law
- Parties do not agree on compensation for other VOIP traffic
- Level 3 to identify and track VOIP traffic originating from or terminating to PSTN
- Level 3 shall pay at least the unitary rate for VOIP traffic to VZ; VZ may bill access
- Parties agree to implement FCC VOIP orders retroactively to effective date of agreement (if FCC acts first on L3 VOIP petition, the parties will then implement any generic FCC VOIP order prospectively from the effective date of the generic order)
    - If the FCC treats VOIP as Information Service traffic or as Local Traffic, then VOIP traffic shall be subject to $.0007/mou (if VZ PSTN traffic to L3 VOIP is more than 10% greater than L3 VOIP to VZ PSTN traffic, then the rate paid by VZ for traffic in excess of the 10% imbalance shall be the unitary rate)

Call Records/Jurisdictional and Billing Indicators

- Billing shall be based on call records or other information that allows the receiving party to determine call jurisdiction in accordance with the agreement

- Parties shall not remove, alter, or replace call records or insert call record information that does not correspond to the calling party
- Parties shall pass call records on each call, including VOIP traffic, to the extent technically feasible
- If calls with call record information is greater than 90%, then calls without call record information shall be billed according to the jurisdictional proportion of calls passed with call record information; below 90%, those calls without call record information shall be billed intrastate switched access
- Parties may use auditable PIU/PLU report if the receiving party lacks the ability to bill based on call records

Mutual POI Architecture

- Mutual POIs shall generally be established at each VZ Tandem Wire Center; these may be implemented via collocation or L3 may purchase intrastate access-rated transport from VZ; unitary rate (and no additional charges other than VZ charges for collocation, muxing, and cross connects) applies for Local/ISP Traffic handed off at the terminating mutual POI
- L3 may deliver toll traffic over same trunks as Local/ISP Traffic subject to prorating port, transport, or other applicable access charges
- VZ may request that any L3 end office collocation site be established as the mutual POI for traffic originated from or terminated to that end office
- VZ may request that L3 establish DEOTs from a mutual POI to any end office if traffic from L3 to the end office exceeds 2 DS1s for any 3 months in a 6 month period (DEOTs from mutual POI to end office shall not be charged to L3)
- In LATAs with fewer than 2 VZ tandems, VZ may request additional mutual POIs at any end office where traffic exchanged with L3 reaches 6 DS1s (approximately 1.3M mou/month) or at any host end offices subtended by remote end offices
- For VZ offices subtending a third party tandem, VZ may elect to exchange traffic through the third party tandem, or may designate a point on the VZ network in the relevant tandem serving area (compensation rates apply at the designated point; the originating party pays any transiting fees charged by a third party tandem provider)
- In any LATAs where the parties have previously established a different interconnection architecture, VZ may require L3 to convert to a mutual POI architecture (which L3 shall implement within 6 months, or VZ may bill intrastate access transport and entrance facilities where applicable between the proposed mutual POI and the L3 switch)

Two Way Trunking

- Either party may request a transition from existing one way trunks to two way trunks, subject to negotiation of a transition plan and to applicable VZ NRC conversion charges

EXHIBIT O

Qwest Responses to Level 3 Discovery

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-001

REQUEST:

Does QC offer any telecommunications services that QCC utilizes as an input to providing dial-up Internet access services to ISPs that are customers of QCC?

RESPONSE:

If Level 3 defines "telecommunications services" as any tariffed telephone exchange or transport services the answer is yes. QC offers telephone exchange and transport services to QCC and QCC purchases tariffed or catalog services (such as PRIs and private line transport) from Qwest (the ILEC).

Respondent: Larry Brotherson

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-002

REQUEST:

To the extent that Data Request No. 1 applies to QC, please provide:

(a) the terms, conditions and rates under which QC offers such telecommunications services to QCC;

(b) starting from the date that QCC first started offering wholesale ISP-dialup in the state of Oregon, please provide copies of all invoices from QC to QCC for any such telecommunications services that QC has sold to QCC for the provision of wholesale ISP-dialup in the state of Oregon;

(c) the number of ISP customers QCC serves in the state of Oregon;

(d) the locations by rate center of the billing addresses of these customers;

(e) the locations by rate center of each ISP's modems and servers

(f) the locations by rate center of each PRI or other QC-provided telecommunications service being used by QCC to provide service to these ISP customers; and

(g) the physical location of QCC's Cisco AS 400s or equivalent equipment that provides modem functionality for dial-up access to the Internet (what Qwest terms "information access") to QCC's ISP customers.

RESPONSE:

(a) QC offers telecommunications services to QCC under the same terms conditions and rates as an end user pursuant to QC's tariff and price list.

Respondent: Ryan Gallagher

(b) Qwest objects to this request on the basis that the information sought would be unduly burdensome to produce, is not relevant to any issues in this proceeding, and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(c) Please see Confidential Attachment A.

Respondent: Ryan Gallagher

(d) Qwest objects to this request on the basis that the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(e) Qwest objects to this request on the basis that the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(f) Qwest objects to this request on the basis that the information sought is

not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(g) Qwest Corporation ("QC") objects to this data request on the basis that it requests information from QCC, who is not a party to this proceeding. The information requested, to the extent known by QC, is confidential to QCC and may not be disclosed. Further, the request seeks information that is not relevant to the issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving this objection, please see Confidential Attachment B.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-003

REQUEST:

Does QCC purchase from QC any retail or wholesale telecommunications services (such as PRI circuits) that QCC incorporates or otherwise uses in the provisioning of any VoIP services (such as wholesale dial) that it offers to customers of QCC?

RESPONSE:

Yes. QCC purchases tariffed retail services, or exchange services, from Qwest (the ILEC), such as Primary Rate ISDN ("PRI") services purchased to terminate traffic to the PSTN in accordance with the ESP exemption.

Respondent: Larry Brotherson

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-004

REQUEST:

If the answer to Data Request 3 is "yes," please provide the following information:

(a) starting from the date that QCC first started offering wholesale VoIP in the state of Oregon, please provide copies of all invoices from QC to QCC for any such telecommunications services that QC has sold to QCC for the provision of wholesale VoIP in the state Oregon.

(b) the number of VoIP customers QCC serves in the state of Oregon;

(d) the locations by rate center of the billing addresses of these customers;

(e) the locations by rate center of each VoIP customer's [equipment]

(f) the locations by rate center of each PRI or other QC provided telecommunications service being used by QCC to provide service to these VoIPcustomers.

(g) the physical location of QCC's Cisco AS 400s or equipment converts IP to TDM (and vice versa) to provide functions associated with the exchange of VoIP calls between QC and QCC.

RESPONSE:

(a) Qwest objects to this request because the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(b) Please see Confidential Attachment A.

Respondent: Ryan Gallagher

(d) Qwest objects to this request on the basis that the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(e) VoIP service is a service provided by Qwest Communications Corporation (QCC) ESP to its customers using the internet. Thus, QCC ESP does not track the location of its VoIP customer's CPE.

Respondent: Ryan Gallagher

(f) Qwest objects to this request on the basis that the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

(g) QCC's Cisco AS 400s do not provide VoIP functions for the exchange of VoIP calls between QC and QCC.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-005

REQUEST:

Qwest's website at http://www.qwest.com/wholesale/industrysolution/isp.html describes "Internet Service Provider (ISP) Industry Solutions" which returns a page that describes the "Internet Service Provider (ISP) Industry Solutions" reproduced in part below:

Internet Service Provider (ISP) Industry Solutions

As your backbone provider, Qwest's diverse products and services can help you expand your service offerings, extend your services to new markets and customers, and grow your profits.

To learn more about our products and services for ISPs, please visit our Prospective Customer Inquiry Form (http://www.qwest.com/wholesale/pcfeedback.html) so we can provide you with the proper representative to help answer all your questions.

A. Where Qwest offers such services within its incumbent serving area in Oregon, please detail where Qwest maintains a "physical presence" in each local calling area in the state for provision of wholesale ISP dialup services for the products listed in the subparts to this question below. For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "physical presence" in the local exchange calling area.

1. "Digital Signal Level 1 (DS1) - V1.0" available at http://www.qwest.com/wholesale/pcat/ds1.html

2. "Voice Termination" available at http://www.qwest.com/wholesale/pcat/voicetermination.html

3. "Outbound Voice Services" available at http://www.qwest.com/wholesale/pcat/ovs.html.

B. Where Qwest offers such services outside of its incumbent serving area in Oregon, please detail where Qwest maintains a "physical presence" in each local calling area in the state for provision of wholesale ISP dialup services for the products listed in the subparts to this question below. For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "physical presence" in the local exchange calling area.

1. "Digital Signal Level 1 (DS1) - V1.0" available at http://www.qwest.com/wholesale/pcat/ds1.html

2. "Voice Termination" available at http://www.qwest.com/wholesale/pcat/voicetermination.html

3. "Outbound Voice Services" available at http://www.qwest.com/wholesale/pcat/ovs.html.

C. Where Qwest offers such services outside of its incumbent serving area in California, Texas, Illinois, Florida, and Massachusetts does Qwest maintain a "physical presence" in each local calling area in the state for provision of wholesale ISP dialup services for the products listed in the subparts to this question below? If so, for the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "physical presence" in each of the local exchange calling areas in the state it locates

such equipment.

1. "Digital Signal Level 1 (DS1) - V1.0" available at http://www.qwest.com/wholesale/pcat/ds1.html

2. "Voice Termination" available at http://www.qwest.com/wholesale/pcat/voicetermination.html

3. "Outbound Voice Services" available at http://www.qwest.com/wholesale/pcat/ovs.html.

RESPONSE:

A. Qwest objects to the request for information regarding Qwest's physical presence in the state because this information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects on the grounds that listing the location of all of the equipment that it owns is unduly burdensome.

Respondent: Qwest Legal

B. Qwest objects to the request for information regarding Qwest's physical presence in the state because this information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects on the grounds that listing the location of all of the equipment that it owns is unduly burdensome.

Respondent: Qwest Legal

C. Qwest states that QC does not offer services in the states listed. To the extent that this data request seeks information about services that QCC might provide in these states, Qwest objects to this request in that it seeks information from a non-party, and is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Larry Brotherson
Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-006

REQUEST:

Please state the total intrastate access revenues collected by Qwest in the state of Oregon for the years 2004 and 2005.

RESPONSE:

Qwest objects to the request for information regarding intrastate access revenues in the state of Oregon because it is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-007

REQUEST:

Please state the total amounts Qwest has collected for universal service in the state of Oregon for the years 2004 and 2005.

RESPONSE:

Qwest objects to the request for information regarding universal service in the state of Oregon because it is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-008

REQUEST:

Please state whether Qwest has been found by any state commission to have failed to invest in network infrastructure in any state in its 14 state incumbent territory, such as a failure to invest funds in exchange for approval of mergers, acquisitions or in return for alternative regulation of its services. For any such instances please provide the name of the state, date of such finding, agency or court making such finding, docket number and most recent disposition.

RESPONSE:

Qwest objects to this data request on the basis that it seeks information that is not relevant to the issues in this proceeding, seeks information not relating to Qwest's operations in Oregon, and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects to performing Level 3's legal research for it. Qwest is not required to research and produce state commission orders for Level 3 in discovery - to the extent such orders exist, they are a matter of public record in each state and are equally available to Level 3.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-009

REQUEST:

Please state the total interstate access revenues collected by Qwest in the state of Oregon for traffic originating in the state of Oregon for the years 2004 and 2005.

RESPONSE:

Qwest objects to the request for information regarding interstate access revenues in the state of Oregon because it is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-010

REQUEST:

Please state the total interstate access revenues collected by Qwest in the state of Oregon for traffic terminating in the state of Oregon for the years 2004 and 2005.

RESPONSE:

Qwest objects to the request for information regarding interstate access revenues in the state of Oregon because it is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-011

REQUEST:

Please explain the physical and technical characteristics, including the components of a Qwest PRI circuit beginning with the line side of a Qwest End Office Switch and through the point where such circuit terminates to an ISP.

RESPONSE:

Qwest assumes this question assumes that an ISP purchases a PRI directly from Qwest Corporation (QC) in the local calling area in which it is located. QC's PRI service consists of a physical port on a QC end office switch that is defined by the PRI software of the switch. This port is connected to a distribution frame with copper wires. At the distribution frame the copper wires may be cross connected to copper wires called a local exchange loop.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-012

REQUEST:

Please explain the physical and technical characteristics, including the components of a Qwest PRI circuit beginning with the line side of a Qwest End Office Switch and through the point where such circuit terminates to an ESP provider of VoIP services.

RESPONSE:

See Qwest's response to request no. 01-011. The only difference is that in the case of a VoIP provider, the PRI service allows origination and termination in the LCA in which it is purchased. Thus, the traffic can flow in the opposite direction from traffic flowing to an ISP. Otherwise, the connections are the same.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-013

REQUEST:

Qwest's website at http://www.qwest.com/wholesale/industrysolution/isp.html describes "Internet Service Provider (ISP) Industry Solutions" which web page contains a link to http://www.qwest.com/wholesale/pcat/natdial.html which link returns a page that describes the "Qwest Wholesale Dial" reproduced in part below:

"Dial-up network infrastructure (network-based modems support, V.90 V.92 and V.44 with dial coverage from over 2,500 points-of-presence (PoPs), and covering over 84% of the U.S. population with a local call."

A. Where Qwest offers such services within its incumbent serving area in the state, please detail where Qwest maintains a "point-of-presence (PoP)" as the term is used by Qwest above, in each local calling area in the state for provision of wholesale ISP dialup services. For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

B. Where Qwest offers such services outside of its incumbent serving area in the state, please detail where Qwest maintains a "point-of-presence (PoP)" as the term is used by Qwest above, in each local calling area in the state for provision of wholesale ISP dialup services. For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

C. Where Qwest offers such services outside of its incumbent serving area in California, Texas, Illinois, Florida, and Massachusetts does Qwest maintain a "point-of-presence (PoP)" as the term is used by Qwest above, in each local calling area in the state for provision of wholesale ISP dialup services? For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

D. For each response in A-C above, please specify the precise physical location of Qwest's Network Access Server ("NAS"), which is described on the same webpage as the "Qwest Wholesale Dial" service under the heading "How It Works" which is reproduced for convenience below.

Your end users' PCs dial local access numbers provided by Qwest to connect to local exchange carriers (LECs). Calls are authenticated via a Qwest-provided remote authentication dial-in service (RADIUS) proxy server communicating with your RADIUS authentication server. After an end user is authenticated and the end-user software negotiates the IP connection, the Qwest Network Access Server (NAS) routes end-user packets to the Internet, based on the destination IP address. (available at http://www.qwest.com/wholesale/pcat/natdial.html)

RESPONSE:

A. The following response relates to Qwest Communications Corporation (QCC) operations in Oregon: QCC offers Wholesale Dial in Oregon. QCC maintains a point of presence as the term is used by QCC in its description of Wholesale Dial where QCC has purchased local service (e.g. PRI) in each respective local calling area (LCA).

Respondent: Ryan Gallagher

B. The following response relates to Qwest Communications Corporation (QCC) ESP operations in Oregon: QCC offers Wholesale dial in Oregon. QCC maintains a point of presence as the term is used by QCC in its description of wholesale dial where QCC has purchased local service in each respective local calling area.

Respondent: Ryan Gallagher

C. Qwest states that QC does not offer services in the states listed. To the extent that this data request seeks information about services that QCC might provide in these states, Qwest objects to this request in that it seeks information from a non-party, and is not relevant to the issues in this case.

Respondent: Ryan Gallagher
Qwest Legal

D. Please see Confidential Attachment A.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-014

REQUEST:

Qwest's website at http://www.qwest.com/wholesale/industrysolution/isp.html describes "Internet Service Provider (ISP) Industry Solutions" which web page contains a link to http://www.qwest.com/wholesale/pcat/natdial.html which link returns a page that describes a "Wholesale Voice Termination Services", reproduced in relevant portion
below:

Voice Termination

Product Description

Wholesale Voice Termination Services provide high quality long distance service over our Macro Capacity® Fiber Network. A fundamental component of any size business, long distance service is a key building block in Qwest's virtual enterprise solution, providing a complete suite of communication tools to meet our customers' needs. Voice Termination Services are part of the Qwest Express brand and give the customer the option of an RBOC/ITC or Blended rate. The RBOC/ITC option gives the customer two rates per LATA depending on whether termination is through the RBOC or an ITC. The Blended option gives the customer one rate per LATA. For both types of service Qwest carries and bills for the call from the time the carrier' s originating switch signals the Qwest switch to the terminating point of the call.

A. Please describe the components of Qwest's "Wholesale Voice Termination Services" as offered over Qwest's incumbent network within the state.

B. Please describe the components of Qwest's "Wholesale Voice Termination Services" as offered in Sprint's incumbent territory within the state.

C. Please describe the components of Qwest's "Wholesale Voice Termination Services" as offered in Verizon's incumbent serving territory within the state.

D. Please describe the components of Qwest's "Wholesale Voice Termination Services" as offered in SBC's (n/k/a AT&T's) incumbent serving territory outside of the state.

E. Please describe the components of Qwest's "Wholesale Voice Termination Services" as offered in Verizon's incumbent serving territory (n/k/a AT&T's) outside of the state.

F. Please describe the components of Qwest's 'Wholesale Voice Termination Services" as offered in BellSouth's incumbent serving territory (n/k/a AT&T's) outside of the state.

G. Does Qwest offer the "Wholesale Voice Termination Services" as an input to VoIP providers seeking to terminate VoIP Calls to Qwest's incumbent network in the state? If so, please:

1. Please detail where Qwest maintains a "point-of-presence (PoP)" as the term is used by Qwest in the quoted portions reflected in Level 3 Data Request 14 above, in each local calling area in the state for provision of such Wholesale Voice Termination Services. For the purposes of this request,

describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

H. Does Qwest offer the "Wholesale Voice Termination Services" as an input to VoIP providers seeking to terminate VoIP Calls to Sprint's incumbent network in the state? If so, please:

I. Please detail where Qwest maintains a "point-of-presence (PoP)" as the term is used by Qwest in the quoted portions reflected in Level 3 Data Request 14 above, in each local calling area in the state for provision of such Wholesale Voice Termination Services. For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

J. Does Qwest offer the "Wholesale Voice Termination Services" as an input to VoIP providers seeking to terminate VoIP Calls to Verizon's incumbent network in the state? If so:

1. Please detail where Qwest maintains a "point-of-presence (PoP)" as the term is used by Qwest in the quoted portions reflected in Level 3 Data Request 14 above, in each local calling area in the state for provision of such Wholesale Voice Termination Services. For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

K. Where Qwest offers such "Wholesale Voice Termination Services" outside of its incumbent serving area in California, Texas, Illinois, Florida, and Massachusetts does Qwest maintain a "point-of-presence (PoP)" as the term is used by Qwest in the quoted portions reflected at the beginning of Data Request No. 14 above, in each local calling area in the state for provision of wholesale ISP dialup services? For the purposes of this request, describe and name the physical facility or service that Qwest considers to constitute a "point-of-presence (PoP)"in the local exchange calling area.

L. For each response in A-H (including subparts) above, please specify the precise physical location of NAS, which is described on the same webpage as the "Qwest Wholesale Dial" service under the heading "How It Works" which is reproduced for convenience below.

Your end users' PCs dial local access numbers provided by Qwest to connect to local exchange carriers (LECs). Calls are authenticated via a Qwest-provided remote authentication dial-in service (RADIUS) proxy server communicating with your RADIUS authentication server. After an end user is authenticated and the end-user software negotiates the IP connection, the Qwest Network Access Server (NAS) routes end-user packets to the Internet, based on the destination IP address. *(available at* http://www.qwest.com/wholesale/pcat/natdial.html)

M. To the extent that Qwest does not use a "Network Access Server (NAS)" to provide supportive or constituent functionalities related to "Wholesale Voice Termination Services" please provide the name, manufacturer, model, and location of any device(s) that provide IP to TDM conversion, and/or call control and/or call routing, and/or SS7, to the extent that Qwest provides such functionalities in connection such service.

N. Please specify the rates Qwest offers for the "The Blended option gives the customer one rate per LATA" for "Wholesale Voice Termination Services" Qwest offers in the state of Oregon. Include the tariff, rate sheet, or individual case basis filings under which such are offered within the state.

O. Please specify the rates Qwest offers for the "The RBOC/ITC option gives the customer two rates per LATA depending on whether termination is through the RBOC or an ITC." for "Wholesale Voice Termination Services" Qwest offers

in the state of Oregon. Include the tariff, rate sheet, or individual case basis filings under which such are offered within the state.

P. For Questions A-K above, please provide the same information if for any portion of any response to such questions Qwest contends that QCC or any other Qwest Affiliate provides in whole or part such services (whether regulated or not) or, in whole or part, owns, operates or controls directly or indirectly any device, feature or functionality used in the provision, sale, or offering of such Wholesale Voice Termination Services.

Q. If in response to Data Request No. 14(Q) above, Qwest contends that QCC or any other Qwest Affiliate provides in whole or part such services (whether regulated or not) or, in whole or part, owns, operates or controls directly or indirectly any device, feature or functionality used in the provision, sale, or offering of such service requested in Data Request No. 14 please provide copies of all invoices submitted by Qwest to QCC or such other Qwest Affiliate related to such entity's provision or offering of Wholesale Voice Termination Services.

RESPONSE:

A. Qwest Communication Corporation's LD Wholesale Voice Termination Services is not offered over QC incumbent network within the state of Oregon except to the extent that QCC purchases access services pursuant to QC's access tariff (e.g., Feature Group D) for the termination of long distance voice traffic.

Respondent: Ryan Gallagher

B. Qwest Communication Corporation's LD Wholesale Voice Termination Services is offered in Sprint's incumbent territory within the state of Oregon where QCC purchases access services pursuant to Sprint's access tariff (e.g., Feature Group D) for the termination of long distance voice traffic.

Respondent: Ryan Gallagher

C. Qwest Communication Corporation's LD Wholesale Voice Termination Services is offered in Verizon's incumbent territory within the state of Oregon where QCC purchases access services pursuant to Verizon's access tariff (e.g., Feature Group D) for the termination of long distance voice traffic.

Respondent: Ryan Gallagher

D. Qwest states that QC does not offer service outside of its 14-state incumbent serving territory. To the extent that this data request seeks information about services that QCC might provide outside of the state of Oregon, Qwest objects to this request in that it seeks information from a non-party, and is not relevant to the issues in this case.

Respondent: Ryan Gallagher
Qwest Legal

E. Qwest states that QC does not offer service outside of its 14-state incumbent serving territory. To the extent that this data request seeks information about services that QCC might provide outside of the state of Oregon, Qwest objects to this request in that it seeks information from a non-party, and is not relevant to the issues in this case.

Respondent: Ryan Gallagher
Qwest Legal

F Qwest states that QC does not offer service outside of its 14-state incumbent serving territory. To the extent that this data request seeks information about services that QCC might provide outside of the state of Oregon, Qwest objects to this request in that it seeks information from a

non-party, and is not relevant to the issues in this case.

Respondent: Ryan Gallagher
Qwest Legal

G. Qwest objects to the request for information regarding Qwest's physical presence in the state because this information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects on the grounds that listing the location of all of the equipment that it owns is unduly burdensome.

Respondent: Ryan Gallagher
Qwest Legal

H. Qwest objects to the request for information regarding Qwest's physical presence in the state because this information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects on the grounds that listing the location of all of the equipment that it owns is unduly burdensome.

Respondent: Ryan Gallagher

I. Qwest objects to the request for information regarding Qwest's physical presence in the state because this information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects on the grounds that listing the location of all of the equipment that it owns is unduly burdensome.

Respondent: Qwest Legal

J. Qwest objects to the request for information regarding Qwest's physical presence in the state because this information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Qwest further objects on the grounds that listing the location of all of the equipment that it owns is unduly burdensome.

Respondent: Qwest Legal

k - Qwest states that QC does not offer services in the states listed. To the extent that this data request seeks information about services that QCC might provide in these states, Qwest objects to this request in that it seeks information from a non-party, and is not relevant to the issues in this case.

Respondent: Ryan Gallagher
Qwest Legal

l - The following response relates to Qwest Communications Corporation (QCC) ESP operations in Oregon: See response to request no. 01-013(D).

Respondent: Ryan Gallagher

M. Qwest objects to this data request on the basis that it is overly broad and unduly burdensome and not relevant to the issues raised in this proceeding.

Respondent: Qwest Legal

N. Qwest objects to providing this information as it pertains to a service offered by QCC who is not a party to this proceeding and is not relevant to the issues raised in this proceeding.

Respondent: Qwest Legal

O. Qwest objects to providing this information as it pertains to a service

offered by QCC who is not a party to this proceeding and is not relevant to the issues raised in this proceeding.

Respondent: Qwest Legal

P. See Qwest's responses to subparts A - K above.

Respondent: Qwest Legal

Q. Qwest objects to this request on the ground that its reference to "Data Request No. 14(Q) above" is vague, ambiguous, and unintelligible. Qwest further objects to this request on the basis that the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal
Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-015

REQUEST:

Please state whether Qwest requires any "Internet Service Provider (ISP)" as Qwest uses that term on its web pages (such as http://www.qwest.com/wholesale/pcat/natdial.html) that purchases a "Qwest Wholesale Dial" product to:
A. Collocate any equipment at a Qwest "Network Access Server (NAS)" location;

B. Physically locate modems or equipment provides the modem functionality in the state?

C. Place, operate, own, maintain, locate or collocate modems, modem banks, or equipment providing modem functionality in each Qwest local calling area in the state (regardless of whether such physical location occurs within, near, inside or outside of a Qwest Central Office or Serving Wire Center and regardless of whether such physical location is, is not, may be, could be, or might be regulated under local, state or federal law)?

D. Place, operate, own, maintain, locate or collocate proxy RADIUS server(s), or such equipment providing equivalent functionality in each Qwest local calling area in the state (regardless of whether such physical location occurs within, near, inside or outside of a Qwest Central Office or Serving Wire Center and regardless of whether such physical location is, is not, may be, could be, or might be regulated under local, state or federal law)?

E. For Questions A-D above, please provide the same information if for any portion of any response to such questions Qwest contends that QCC or any other Qwest Affiliate is responsible in whole or in part for the provision of Qwest Wholesale Dial or for any requirements or restrictions requested in Data Request No. 15:

F. If in response to Data Request No. 15(E) above, Qwest contends that QCC or any other Qwest Affiliate is responsible in whole or in part for the provision of Qwest Wholesale Dial or for any requirements or restrictions requested in Data Request No. 15 please provide copies of all invoices submitted by Qwest to QCC or such other Qwest Affiliate for any such inputs to Qwest Wholesale Dial Services that QCC or such other Qwest Affiliate purchases from Qwest for purposes of offering or providing such Wholesale Dial Services.

RESPONSE:

A. The following response relates to Qwest Communications Corporation (QCC) ESP operations in Oregon:

Wholesale Dial is a Qwest Communications Corporation (QCC) ESP product that is provisioned to ISPs. QCC is an enhanced service provider, not a telecommunications carrier, when it offers this service. As an ESP providing Wholesale Dial service, QCC does not require its ISP customer equipment to be collocated at QCC's NAS location.

Respondent: Ryan Gallagher

B. Qwest assumes question 15 for subpart B is asking if Qwest's Wholesale Dial product requires ISPs to physically locate modems or equipment that provides the modem functionality in the state.

Wholesale Dial is a Qwest Communications Corporation (QCC) ESP product that is provisioned to ISPs. QCC is an enhanced service provider, not a telecommunications carrier, when it offers this service. As an ESP providing Wholesale Dial service, QCC provides modem functionality to its ISP customers and therefore does not require its ISP customer to physically locate modems or equipment that provides the modem functionality in the state of Oregon.

Respondent: Ryan Gallagher

C. Wholesale Dial is a Qwest Communications Corporation (QCC) ESP product that is provisioned to ISPs. QCC is an enhanced service provider, not a telecommunications carrier, when it offers this service. As an ESP providing Wholesale Dial service, QCC provides modem functionality to its ISP customers and therefore does not require its ISP customer to place, operate, own, maintain, locate or collocate modems, modem banks, or equipment providing modem functionality in each QC local calling area in Oregon.

Respondent: Ryan Gallagher

D. The following response relates to Qwest Communications Corporation (QCC) ESP operations in Oregon:

Wholesale Dial is a Qwest Communications Corporation (QCC) ESP product that is provisioned to ISPs. QCC is an enhanced service provider, not a telecommunications carrier, when it offers this service. As an ESP providing Wholesale Dial service, QCC provides proxy RADIUS functionality to its ISP customers and therefore does not require its ISP customer to place, operate, own, maintain, locate or collocate proxy RADIUS server(s) in each QC local calling area in the state.

Respondent: Ryan Gallagher

E. See the above answers to 15 A through D.

Respondent: Ryan Gallagher

F. Qwest objects to this request on the basis that the information sought is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-016

REQUEST:

Please list each local calling area within the state in which QCC maintains a physical presence as defined by QC in Section 4-Definitions VNXX Traffic (Issue No. 3B) of the Qwest's proposed changes to the Parties' interconnection agreement.

RESPONSE:

QCC, under the ESP exemption, typically buys local service (PRI or its equivalent) in the LCA where it obtains local phone numbers (the numbers are included with the local exchange service purchased by QCC). QC does not assign VNXX codes. QC adheres to the numbering guidelines and properly assigns telephone numbers within the local calling area. Local numbers are assigned to each dedicated local PRI circuit that is provisioned from each local calling area to the customer, QCC. QC knows that its PRI customer is located in the local calling area, or has a physical presence in that calling area by virtue of purchasing the tariffed local service and combining it with a tariffed or catalogued private line transport service. A QC customer must purchase local service to obtain a local number. If such customers have no local dial-up number, then a dial-up end user would have to dial a "1+" call or an 8XX number to connect to QCC.

QCC maintains a physical presence in the following local calling areas in Oregon:

Albany, Aloha, Amity, Astoria, Baldy Peak, Banks, Beaver, Beaverton, Bend, Burlington, Cascade Locks, Clatskanie, Clackamas, Corvallis, Eugene, Florence, Forest Grove, Gaston, Grants Pass, Gresham, Hood River, Hood Land, Hillsboro, Klamath Falls, La Grande, Lake Oswego, McMinnville, Mill City, Mapleton, Medford, Milwaukie, Newport, Oak Grove, Oregon City, Parkdale, Pendleton, Portland, Prineville, Rainier, Roseburg, Salem Seaside, Scholls, Sherwood, Sandy, Stafford, Sunnyside, Springfield, The Dalles, Tillamook, Tualatin, Tigard, Umatilla, Valley View, Veronia

Respondent: Larry Brotherson

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-017

REQUEST:

Of those states in which Qwest operates as an ILEC (as defined in Section 251(h) of the Act), list the states where Qwest combines CLEC local and toll (IntraLATA and InterLATA) traffic on a single trunk?

RESPONSE:

The following response relates to Qwest Corporation (QC) operations in Oregon: QC does not combine switched access and local traffic on a single trunk group for any CLEC. QC may combine jointly provided switched access and local traffic to a CLEC on a single trunk group. However, QC does allow IXCs to combine their toll (IntraLATA and InterLATA) and local traffic (to the extent the IXC also operates as a CLEC) on a single Feature Group D trunk. To the extent that this request seeks information regarding Qwest's operations in other states, Qwest objects that such information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-018

REQUEST:

For each state in which Qwest operates as an ILEC (as defined in Section 251(h) of the Act), please identify each CLEC with which Qwest (a) exchanges local and toll (IntraLATA and InterLATA) traffic on a single trunk group and (b) uses a Percent Local Use (PLU) or similar method of establishing the apportionment of local vs. toll traffic on the combined trunk group.

RESPONSE:

Qwest Corporation (QC) responds with the following regarding its operations in Oregon: QC does not combine switched access and local traffic on a single trunk group and does not use a Percent Local Use ("PLU") or similar method of establishing the apportionment of local versus toll traffic on a combined trunk group with any carrier. However, QC and a CLEC may apply a PLU factor to No-CPN traffic to address the absence of CPN. In addition, QC allows IXCs to combine their toll (IntraLATA and InterLATA) and local traffic (to the extent the IXC also operates as a CLEC) on a single Feature Group D trunk. To the extent that this request seeks information regarding Qwest's operations in other states, Qwest objects that such information is not relevant to any issues in this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence.

Respondent: Ryan Gallagher

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-019

REQUEST:

For each state in which a Qwest CLEC affiliate combines local and toll (IntraLATA and InterLATA) traffic on a single trunk group, please state whether Qwest's CLEC affiliate uses a Percent Local Use (PLU) or similar other method of establishing the apportionment of local vs. toll traffic on the combined trunk group.

RESPONSE:

Qwest objects to this data request on the basis that it seeks information about a Qwest CLEC affiliate which is not relevant to the issues raised in this arbitration proceeding in Oregon.

Respondent: Qwest Legal

QWEST CORPORATION
DOCKET: ARB 665
INTERVENOR: Level 3 Communications, Inc.
REQUEST NO: L3CI 05-020

REQUEST:

Please explain why the following contract sections contained in Qwest's Oregon SGAT prohibit Level 3 from exchanging VoIP Calls, ISP-bound traffic and terminating traditional 1+ dialed Interexchange traffic (also known as terminating "IP in the middle" traffic) over Level 3's existing co-carrier network using billing factors in the state. The full SGAT is available at: http://www.qwest.com/wholesale/clecs/sgatswireline.html, scroll down to "Oregon" and Choose "SGAT 6/25/02", which will return a word document containing these (and other provisions).

7.2.2.9.3 Separate trunk groups may be established based on Billing, signaling, and network requirements. The following is the current list of traffic types that require separate trunk groups, unless specifically otherwise stated in this Agreement.

a) Directory assistance trunks (where the Switch type requires separation from operator services trunks);

b) 911/E911 trunks;

c) Operator services trunks (where the Switch type requires separation from Directory Assistance trunks)

d) Mass calling trunks, if applicable.

7.2.2.9.3.1 Exchange Service (EAS/local), Exchange Access (IntraLATA toll carried solely by Local Exchange Carriers) and Jointly Provided Switched Access (InterLATA and IntraLATA toll involving a third-party IXC) may be combined in a single LIS trunk group or transmitted on separate LIS trunk groups. If traffic is combined, Section 7.3.9 of this Agreement applies.

7.2.2.9.3.2 Exchange Service (EAS/Local) traffic and Switched Access traffic including Jointly Provided Switched Access traffic, may be combined on the same trunk group. If combined, the originating Carrier shall provide to the terminating Carrier, each quarter, Percent Local Use (PLU) factor(s) that can be verified with individual call record detail. Call detail or direct jurisdictionalization using Calling Party Number information may be exchanged in lieu of PLU if it is available.

7.3.9 To the extent a Party combines Exchange Service (EAS/Local), Exchange Access (IntraLATA Toll carried solely by Local Exchange Carriers), and Jointly Provided Switched Access (InterLATA and IntraLATA calls exchanged with a third-party IXC) traffic on a single LIS trunk group, the originating Party, at the terminating party's request will declare quarterly PLU(s). Such PLU's will be verifiable with either call summary records utilizing Calling Party Number information for jurisdictionalization or call detail samples. The terminating Party should apportion per minute of use (MOU) charges appropriately.

RESPONSE:

Section 7.2.2.9.3.1 of the current Oregon SGAT does allow the combining of "Exchange Service (EAS/local), Exchange Access (IntraLATA toll carried by Local Exchange Carriers) and Jointly Provided Switched Access" over a single LIS trunk group. However, it does not allow Level 3 to deliver "terminating traditional 1+ dialed Interexchange traffic" over LIS trunks. Section

7.2.2.9.3.2 of the SGAT does allow the combining of all traffic on a single trunk group however, due to the fact that LIS trunks do not have the capability to produce records for the billing of switched access, this traffic must be combined over FGD interconnection trunks.

Although the SGAT does allow for a limited use of billing factors (e.g. PLU when no CPN is available), current Qwest practice is to bill using measurements of actual traffic when possible. The current SGAT contains no language providing for billing based entirely on factors as Level 3 is now proposing.

Respondent: William Easton