BEFORE THE WASHINGTON STATE

UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of:	)	DOCKET NO. UT-063006
LEVEL 3 COMMUNICATIONS, LLC,	)	Volume IV
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	)	Pages 78 to 283

A technical conference in the above matter was held on August 24, 2006, from 9:30 a.m to 5:00 p.m., at 1300 South Evergreen Park Drive Southwest, Room 206, Olympia, Washington, before Administrative Law Judges ANN RENDAHL and PATRICIA CLARK.

The parties were present as follows:

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THE COMMISSION: BOB WILLIAMSON, Commission Staff, LISA STEEL, Policy Advisor for the Commission, and WILL SAUNDERS, Telecommunications Staff.

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P R O C E E D I N G S

JUDGE RENDAHL: We're here on the morning of Thursday, August 24th, for a technical conference before the Washington Utilities and Transportation Commission. I'm Ann Rendahl, the Administrative Law Judge or Arbitrator in this proceeding, which is Docket UT-063006, which is an Arbitration, a request for Arbitration by Level 3 Communications LLC for Interconnection with Qwest Corporation.

And because this is a technical conference and not technically a hearing, the format will be slightly different today. Before we go any further, however, why don't we go around the room and identify ourselves, if counsel for Level 3 would identify themselves and the people who are with Level 3 in the room, that would be a great start.

MR. CECIL: Certainly. Erik Cecil, Regulatory Counsel, Level 3, with me are Ken Wilson and Mack Greene.

JUDGE RENDAHL: Thank you.

Is there anyone else for Level 3 here in the room?

MR. PORTER: Yes, Your Honor, Scott Porter.

JUDGE RENDAHL: Okay, if you can come up to the mike, that would be great.

MR. PORTER: Scott Porter, Regulatory Counsel for Level 3 as well.

JUDGE RENDAHL: Thank you.

And anyone else for Level 3?

MR. ROGERS: Greg Rogers, Director of State Regulatory Affairs with Level 3.

JUDGE RENDAHL: Thank you.

MR. BUTLER: Art Butler from Ater Wynne, Level 3.

JUDGE RENDAHL: Thank you.

And for Level 3 the witnesses will be Mr. Wilson and Mr. Greene, and Mr. Greene is going first, is that the plan?

MR. GREENE: Correct, Your Honor.

JUDGE RENDAHL: Okay.

For Qwest.

MR. SMITH: Your Honor, my name is Ted Smith, I'm with the Salt Lake office of the law firm of Stoel Rives. Mr. Dethlefs of the Qwest law department is also here as counsel and Mr. Mark Reynolds, State Regulatory Director for Qwest in Washington is here. At the table are the three witnesses for Qwest in this case. To my immediate right is Mr. Phil Linse, L-I-N-S-E.

JUDGE RENDAHL: Thank you.

MR. SMITH: Larry Brotherson is to my

immediate left, and to the far left is Bill Easton.

JUDGE RENDAHL: Thank you.

And anyone else in the room for Qwest?

I'm Ann Rendahl, I identified myself before. To my left is Patricia Clark, who has joined the Administrative Law Division at the Commission as an Administrative Law Judge this month, she's going to be observing and learning today. I know there is some confidential information in the record, is there any objection to Ms. Clark reviewing that information?

Okay, hearing no objection, Ms. Clark, you're free to be here.

To my right is Bob Williamson with Commission Staff, many of you know Mr. Williamson, and Lisa Steel, who is the policy advisor for the Commission, is in the back of the room and Will Saunders with the Telecommunications Staff.

I don't anticipate there will be discussion on the record of confidential information. If there needs to be so, you need to let me know so we can take the appropriate steps. I hope we don't get that far. Most of you who participate in hearings know you can discuss confidential information in a way that avoids the actual confidential information, so let's try to do that.

The format which was identified in one of the prehearing conference orders in this case identified the process for today, which will be the technical witness for a company making a presentation followed up by questions from Staff and myself and then from technical witnesses from the other company. There will be no attorney cross-examination in the technical conference. And then I am assuming we will finish with Level 3's witnesses and then move to Qwest witnesses. Is that understood?

MR. SMITH: Yes.

JUDGE RENDAHL: Okay.

Any other process issues we need to address before we start with Mr. Greene?

Mr. Greene.

MR. GREENE: Your Honor, if we are at the board or at the screen is there a hand-held microphone that we should use?

JUDGE RENDAHL: I'm sure we can locate one, so when we get to that point we'll make that happen, thank you.

Any other technical or procedural issues we need?

So we've got some technical -- we've got a lot of demonstrative aids in the room. We have

projectors going on the screen to present Power Points or other information, we have a printable white board. So for those of you who are describing what's going on in these documents, you have identified them as exhibits to your testimony, but if you have other information, we need to somehow identify them or mark them so they will be in the record, and make sure that you describe what's going on.

So I think with that, unless there's anything else we need to talk about, I will turn it over to Mr. Greene.

Mr. Greene.

MR. GREENE: Thank you, Your Honor. What I have on the screen in front of us should be my Exhibit Number 2, MG-2 I believe it is. It doesn't appear that the resolution because of the size of this exhibit is going to work too well on the screen.

JUDGE RENDAHL: Actually, just for clarification, my MG-2 is the map, the rate center coverage description. I think what you have is MG-3.

MR. GREENE: MG-3.

JUDGE RENDAHL: Is that correct?

MR. GREENE: Yes.

JUDGE RENDAHL: Let's be off the record for a moment.

(Discussion off the record.)

JUDGE RENDAHL: We've got a very large printout of what you submitted as your Exhibit MG-3. Go ahead.

MR. GREENE: So what I would like to do is maybe take a few moments to step through this diagram. The genesis of this diagram was a technical conference that Level 3 and Qwest had in Oregon where we spent a good part of I guess a day and a half really mapping out our architectures. The architecture that Level 3 employs really is no different from a technical standpoint of view from state to state. Obviously the geographies will differ. The size of the network may differ depending upon how many users are using that network.

I will start with the diagram from the left and move to the right. What we have exhibited is the three different ways that we exchange traffic with Qwest. I think this is instrumental to this case because that's where a large part of the dispute lies is I believe whether or not Qwest considers or Level 3 considers the methods in which we exchange traffic to be proper, and then consequently what is the settlement due to either company based upon the exchange of that traffic.

What we tried to capture in the boxes to the left-hand portion of the diagram is a description of what is commonly referred to as the Public Switch Telephone Network or PSTN. Qwest is the incumbent carrier diagrammed here, and we show the relationship between an end office and a tandem switch and in certain cases where Level 3 has directly connected to an end office.

If we look at the box in the upper left-hand corner, it details the Seattle area where there are three Qwest switches in that box, one switch subtending a tandem that is the STTLWA03DS0, that series of letters and numbers is referred to as a CLLI code, it is an identifier code that helps telecommunications carriers understand where a piece of equipment is and what type of equipment it is.

JUDGE RENDAHL: Okay, CLLI meaning C-L-L-I?

MR. GREENE: Correct.

JUDGE RENDAHL: And so the Chairman of the Commission has a sign in his office that says this is an acronym free zone. Now the Commissioners are ultimately going to be getting the information in this case I'm assuming, so as much as we can today because this is a technical conference, if there is an acronym that you're using if you can describe what the acronym is and try to

avoid the acronym, that's great. Now I understand in telecom this is very difficult, but that's a goal for today. Thank you.

MR. GREENE: Thank you.

JUDGE RENDAHL: And what does CLLI stand for, does anyone remember?

MR. LINSE: Common language location identifier.

JUDGE RENDAHL: Common language location identifier.

MR. GREENE: Telecordia, which is a company, call it a third party company, administers a database referred to as the LERG, which is the local exchange routing guide. The combination of that database, the LERG database, and CLLI codes again helps carriers understand these identifier codes, and they are really used to identify where again a piece of equipment is and then what type of equipment is there. The first eight characters of a CLLI code identify the physical location, and then the last three characters identify the type of equipment that is at that particular location.

So going back to the diagram, you will see that there are a number of different CLLI codes, and using those CLLI codes we could actually look up the

addresses for those various pieces of equipment that are listed here on the diagram. Just I guess to keep the diagram a little bit easier to read, we did not put the exact addresses on there. But that box that is labeled Seattle LCA, everything that is inside of that box is inside of the Seattle local calling area or LCA.

Going down the diagram, we are basically demonstrating the same type of architecture in Spokane as an example. And then the bottom two boxes are demonstrating what Level 3 believes is NXX. I understand that Qwest has a different definition of the NXX, I'm sure we'll spend perhaps a little bit of time on that today. But in the definition of Level 3, we consider something to be virtual network services where Level 3 does not have any of its infrastructure in the local calling area to serve those customers. So then that would be the case of Pasco. That location is served by a Qwest end office switch. Qwest backhauls that traffic from the Pasco local calling area and hands it off to us in the Yakima local calling area.

In each of these boxes where Level 3 has a presence, we have established what we commonly call in the industry a POI or a point of interconnection. It is a physical demarcation point where Level 3 and Qwest exchange traffic. Level 3 is responsible for building

its facilities to that POI. We either, as in the case of Seattle, may build our own fiber to that POI, or in other areas such as Yakima as an example, we may lease the circuit from another carrier. But in both of those cases we are responsible for the financial and operational aspects of that infrastructure.

JUDGE RENDAHL: Mr. Greene, just so I understand the diagram, the red line between the Yakima LCA where the equipment is labeled Qwest MUX, there's a red line that goes to a Level 3 MUX and a Seattle LCA and it's indicated as a DTT or I understand direct transport trunking; is that correct?

MR. SMITH: Direct trunk transport.

JUDGE RENDAHL: Okay, got it reversed, okay, so direct trunk transport. And is that red line direct trunk transport a leased element?

MR. GREENE: Actually, in the state of Washington, no, it's not, let me stand corrected, I was trying to talk without looking at the diagram. I just stated that we had a POI in Yakima, I should have used Spokane as an example of where we have a POI or point of interconnection, and we pay for the circuit. So in the diagram it should be labeled in I believe a blue color as Level 3 network.

JUDGE RENDAHL: So instead of having a red

line from the Qwest MUX in Yakima to the Level 3 MUX in Seattle, it should be a blue line that indicates Level 3 network?

MR. GREENE: No, I was misspoken when I said we had a POI in Yakima.

JUDGE RENDAHL: Okay.

MR. GREENE: It should be what is on the diagram in the room is sort of a purple color, it may be red depending upon how it printed elsewhere, but that is direct trunk transport, it is a jointly provisioned circuit between Level 3 and Qwest so that traffic from the Yakima office would route directly to Level 3.

JUDGE RENDAHL: I guess I'm confused, the line should not go from Yakima to Seattle?

MR. GREENE: No, the chart is correct, my description of it a moment ago was incorrect.

JUDGE RENDAHL: Okay, thank you.

MR. GREENE: So I will take a moment and explain those two sort of -- those two links. Up to the POI in the case of Seattle and Spokane on this diagram, Level 3 is responsible for that network and that infrastructure. On the other side of the POI once you cross the boundaries of the POI so to speak, Qwest is responsible for that infrastructure. The purple lines that are on the diagram designate where again our two

companies have worked together to provision a circuit that directly connects from an end office switch or in some cases a tandem switch back to the Level 3 network. It provides the most efficient route for traffic. In a case where we directly connect to an end office switch, it is not necessary to use the tandem switch to move that traffic to Level 3. The end office switch has the intelligence built into it to put that traffic that is destined to Level 3 directly onto that trunk that goes back to our network.

MR. WILLIAMSON: Can I clarify something to you while you're there at a particular point, it's also a POI at the Seattle location, the Seattle box; is that correct?

MR. GREENE: That is correct.

MR. WILLIAMSON: And the activity from Pasco to get to the POI at Spokane actually passes through your facilities at Yakima?

MR. GREENE: Actually, that's Qwest facilities in Yakima.

MR. WILLIAMSON: I'm sorry, from Qwest facilities at Yakima to your POI in Seattle and then back over jointly provisioned facilities to Yakima; is that right?

MR. GREENE: Correct, that is correct.

MR. WILLIAMSON: Okay. And then whatever call happens to the tandem there, that's how it gets to the tandem from -- maybe when you get through with this we should do some functional explanation of how a call actually flows through this diagram.

MR. GREENE: Absolutely, I will get to that, I want to just maybe explain the boxes, and then we can sort of step through that.

But so again really on the left is the PSTN, and we can spend some more time talking about, and perhaps it would be better if Mr. Linse were to assist in describing the relationship between end offices and tandems and how all that infrastructure works.

Sort of bridging that left-hand side of the network to the right-hand side of the network is a circuit that leaves our collocation facility in Seattle and comes to what we refer to as a gateway facility, which also happens to be located in Seattle. That is a fiber connection, that blue line that goes from again the Seattle collocation Level 3 over to the Level 3 Seattle facility, which I will commonly refer to as our gateway facility. That traffic is brought over and is then connected into a media gateway.

The media gateway on the Level 3 network serves multiple functions. It has the ability to answer

both modem calls and to allow both the connectivity in and out for VoIP calls. The device is intelligent enough to know that when it's a data call the modem functionality should be employed and the call should route down a certain path. And if it is a VoIP call, that in effect some type of voice technology will be deployed, it will route down a voice or VoIP path, as it is in the case of the Level 3 network.

JUDGE RENDAHL: Okay, when you say VoIP just for the record, VoIP is voice over Internet protocol?

MR. GREENE: That is correct.

JUDGE RENDAHL: Okay, so when you're referring to VoIP when you're talking about the Internet you mean voice?

MR. GREENE: Well, yes, in most instances. Level 3 does offer services to interexchange carriers or IXC's, traditional long distance carriers, that traffic may and does traverse our network. It traverses our network in an IP format. However, the call originates on a normal telephone set, and it terminates on a normal telephone set, sometimes referred to as IP in the middle or Internet protocol in the middle. When a call is of that nature, we do not consider it to be VoIP, we consider it to be a traditional long distance call and would be subject to access charges.

One of the issues that we have with Qwest is that we would like to use this infrastructure and this network that we have in place for both types of calls, actually really three types of traffic if you consider that ISP bound is one type of traffic, VoIP is a second set of traffic, and then long distance or interexchange carrier traffic would be that third type. And we feel that there are different settlement mechanisms that should apply to each of those, and that is one of the key issues that's in contention in this case, and I will talk to our position on that in a few moments.

JUDGE RENDAHL: Okay, I would like to avoid as much as we can using this technical conference as a basis for making argument, because we are going to have an evidentiary hearing where you all will have the opportunity to make your arguments about particular issues in the case. My goal today is just to have everyone educated on the technical aspects so we can get to the hearing and understand what you're talking about.

MR. GREENE: Fair enough.

So continuing to the right side of the diagram, and I will for the moment describe an ISP bound call, the network diagram has all the elements that support both VoIP calls and ISP bound calls, but I will go through the elements for an ISP bound call, trace out

the path of that call to the various pieces of equipment and then move to VoIP for clarity's sake.

So as that call comes over the media gateway, again it can function as either a data device providing modem functionality or as a voice device. If it is a data call, that media gateway would know to accept that call on that particular line because it got some information from our soft switch. In a traditional PSTN network, the ports that allow traffic in and off of a switch and the switching matrix are typically contained in one box where you will have an ingress and egress port, and then you will have a switch matrix that provides functionality to connect a call between those particular ports.

In the Level 3 network because of efficiencies with newer technology, we have separated out those functions so that the port capabilities of getting onto the network or off the network are in one device, the media gateway, and the soft switch contains the intelligence that handles routing of the calls between that device and the PSTN. The soft switch really speaks two languages. One language, and you will see a small arrow off the top of that box, is SS7 or signaling system 7. It is a protocol used in the industry to allow different switches to talk to one

another and to establish a path to route a call from one location to another. Our soft switch speaks to the Qwest network via quad links and signal transfer points or STP's that are demonstrated at the top of the diagram. For clarity's sake, the SS7 links aren't shown there as fully established links, they're simply arrows, but there is actually a fully established link between the soft switch and the Level 3 STP and then from the Qwest STP to its various switches in its network.

JUDGE RENDAHL: So when you say a link, you mean an actual physical line?

MR. GREENE: That is correct.

JUDGE RENDAHL: Okay.

MR. GREENE: Continuing further right on the diagram, there are various routers that would also facilitate the transfer of traffic. You will see inside the Level 3 Seattle facility there is a router, that is also other routers described in the diagram, they are there to handle actual packets of data. The call is on the left-hand side of that media gateway an electromagnetic signal. It is just as any other voice call would be on a voice line. When we speak into the telephone, effectively the microphone in that telephone is capturing the sound waves that we're generating and converting them into electromagnetic pulses that are

then put onto a copper line as various frequencies. That is sometimes referred to as TDM or time division multiplexing. Those basic frequencies that are on the copper line or the copper loop going out to somebody's house are then sort of put into time divided boxes on electrical circuits that ride across carrier networks, and those circuits are typically referred to as DS1 or digital signal 1, also referred to as a T1, or DS3, digital signal 3. A DS1 has the capacity to carry 24 simultaneous calls. A DS3 has the capacity to handle 672 simultaneous calls. And carriers use those different sized circuits to aggregate things up and move, you know, large amounts of traffic from one point to the next. But on the left-hand side of that diagram is the blue lines, the purple lines, and the solid blue lines or the black lines, those circuits are made up of time division multiplexed or TDM circuits. We also refer to them as private lines. They're effectively a dedicated circuit between one location and the next.

On the Level 3 side of the diagram where you see dotted or dashed lines, all the communications between are devised to take place in IP, or Internet protocol. Internet protocol is different than time division multiplexing in that it involves packets, and packets can be of variable sizes, they can go to

variable destinations, they aren't necessarily designed just to go between point A and point B like a private line is. A packet based upon the addressing that's inside of it could go to point A or it could go to point Z or it could go to point J, it really depends upon a particular application.

Those packets are first transferred over to a Level 3 RADIUS proxy server, and that device -- and RADIUS stands for remote access user identification, I'm forgetting, we can look that up, but RADIUS is actually an acronym and I apologize for not knowing the full description of that. Nobody else wants to jump in and help out, but it is effectively a protocol for the authentication of users. It's the device that listens for your user name and password and validates that that combination is correct. Proxy means is that we sort of store that information temporarily. It is stored on our network to facilitate faster response time to the user, but ultimately as you see further down on the diagram, our ISP customer who we sell a product called Managed Modem Service to is ultimately responsible for the maintenance and management of those user names and passwords.

Once the user is authenticated, then they are allowed access out onto the Internet, and they could,

you know, employ a number of different services, be they're going to Amazon to shop for a book, be it they actually connect with a E-mail server to check their E-mail or perhaps even a file server where they may download some music files or some other utility.

JUDGE RENDAHL: Mr. Greene, on my version which I was sent with the initial testimony that was filed, and it has colors so I can tell the difference, there is a series of darker blue dotted lines that appears to connect just Level 3 equipment, and then there are lighter blue lines that seem to go out generally into the broader Internet. Is that an indication of Level 3 Internet owned facilities versus other Internet facilities?

MR. GREENE: Yes, it is.

JUDGE RENDAHL: Okay.

MR. GREENE: So some of the facilities are what we consider to be on our backbone or on, physically on the Level 3 network. Those packets, however, may leave the Level 3 backbone, go to the backbone of another provider or go to the unique network of either our customer or to let's say an Internet service provider that housed the content that the ISP customer is trying to reach.

There is one exception, and I will talk to

this in the call path, AOL is a major customer of ours, I believe they're also a major customer of Qwest. Instead of having their traffic go directly onto the Internet as most of our other ISP customers do, AOL requested that traffic first goes to them, and then they actually route it onto the Internet. So there is a slight difference, but because of the size of America on Line or AOL, we thought it important to diagram that small difference there.

So let me maybe try and string all this together in the context of an ISP bound call and trace out the call path. Hopefully you have the diagrams and the testimony, Mr. Cecil can keep me honest, where we did attempt to with letters and numbers sort of map this out. I will follow that, and I believe it would go across two different exhibits where again the call would traverse the PSTN and then traverse the Level 3 network.

JUDGE RENDAHL: Okay, now those diagrams are in a confidential exhibit, MG-5a and MG-5b and I guess my question is, is this description of how things traverse the network confidential?

MR. GREENE: No, it's not. I will be able to generically describe it, and perhaps at a break we can take a look at that, we may be able to waive confidentiality on that.

JUDGE RENDAHL: On that exhibit.

MR. GREENE: On that exhibit to keep the record clean.

JUDGE RENDAHL: Okay, so you're essentially going to be describing what's included in Exhibit 5a and b.

MR. GREENE: I believe so, yes.

JUDGE RENDAHL: Okay, and that's MG-5a and b.

MR. GREENE: So what happens is, and let's just take a user in Seattle, and let's assume that user is in the bottom left-hand corner of that Seattle diagram, their computer is connected to let's say they have a second line in their house, that second line is connected to the Qwest switch STTLWA04DS0. And you will see on the diagram there, there is a computer and a modem. The modem would attach to a normal phone line just like anybody would have for their phone service. It could be inside of their computer, or it could simply sit outside of the computer. The modem just like a phone when you pick up the receiver effectively goes off hook. It completes the circuit. There are two, effectively two wires coming into the house. The modem completes that circuit, and that signals to the Qwest switch that the end user wishes to make a call.

The switch will generate a tone, actually

it's a combination of tones, and part of that is really just a human factors thing, you know. If we picked up the phone and didn't hear anything, we wouldn't have any real indication that it was working, so the switch sends these tones down to us so that we can hear that the system is working. Most modem manufacturers also allow this first part of the conversation to be heard by the user, so they have hit, you know, log on on their Internet software, and they want to know that something is happening, because this process may take 30 or 40 seconds to actually complete. Dial tones will be generated. The computer modem will actually outpost tones that the Qwest switch listens for, and, Mr. Wilson, keep me honest here, DTMF is?

MR. WILSON: Dual tone multifrequency.

MR. GREENE: Dual tone multifrequency, which is effectively if you play the piano it's effectively a chord, it's two notes together or two frequencies played at the same time that represent the numbers zero through nine and the asterisk and the pound key that you see on your phone. So the modem, which will have a number that's assigned to the customer's ISP, will output the tones that represent that number. The Qwest switch listening for those tones will translate them into physical numbers and do a look up to see where should

that number route to, and that number being representing a call that is being attempted.

The Qwest switch through the SS7 signaling system network will send out a request to understand the routing. The SS7 network of Qwest will then communicate to the SS7 network of Level 3 via our soft switches and effectively say, hey, I have a user that's trying to make a call to this number, where should I send it. And our network will send back a message that says, great, I got your message, please send the call here, which effectively tells the Qwest switch which trunk line to put it on.

A trunk is typically referred to as a single line or a single circuit or something that has the capacity to carry one call. So if you recall back a few moments ago, I talked about a DS1 has a capacity of 24 calls, we will also describe that as 24 trunks, so I may use those terms interchangeably. We have -- we may have filed this confidentially or under a confidential seal, but I will waive confidentiality on it, Level 3 and Qwest have a little over 35,000 trunks in place today between our two networks, so it is a very large network.

Once that message --

MR. WILLIAMSON: I'm sorry, was that the state of Washington, or was that your whole network?

MR. GREENE: That is just the state of Washington. Level 3 has approximately 1.8 million trunks in service in the United States, and every day approximately 1 billion minutes of use of ISP bound traffic come to our network.

JUDGE RENDAHL: So when you're referring to, as you just said, to the number of trunks in Washington and then service in the United States, you're referring to the one call DS0 level line?

MR. GREENE: That is correct.

JUDGE RENDAHL: Okay.

MR. WILLIAMSON: And, I'm sorry, one more clarification, those are local interconnection service trunks from Qwest, LIS trunks?

MR. GREENE: They are, the 35,000 trunks are, yes, they are.

MR. WILLIAMSON: And the red line, well, I guess the red and black line all the way from the Qwest switch to your media gateway are LIS trunks?

MR. GREENE: No, they are only LIS trunks from the POI back to the Qwest switch. LIS or local interconnection service is the product name that Qwest has for the service that they offer to CLECs that facilitates the exchange of traffic between a CLEC's network and Qwest's network. Again from an efficiency

standpoint of view, carriers would like to switch a call or run it through a switch as few times as possible, it saves on capital and expense. So in the case of this particular call that's coming from the Seattle Washington 04 DS0 switch, we have a LIS trunk, a local interexchange trunk, also referred to as a direct end office trunk or DEOT, which has a component of direct trunk transport. So I could probably put a riddle together with all those acronyms, but I think I will avoid doing that. And again, I think throughout the day you will hear us use those words interchangeably, direct trunk transport, DEOT, and LIS, they all are referring to the same thing.

JUDGE RENDAHL: They all provide transport between one switch to another?

MR. GREENE: Correct, and probably more accurately stated between a Qwest switch and a CLEC POI.

JUDGE RENDAHL: Okay. And just to clarify, the difference between direct end office trunking and direct trunk transport is just one is connecting an end office, and if it doesn't connect an end office, then it may be direct trunk transport?

MR. GREENE: Not exactly. The way that the LIS service works, it has a couple of different components associated with it. The actual physical pipe

is referred to as a direct end office trunk. How that -- how charges may be applied to that trunk are broken up into various categories, one of which is direct trunk transport. There are -- if you look in the Qwest tariff or SGAT, there is also charges for MUXing or multiplexing, which is the aggregation of smaller circuits. So as an example, a DS3, which I mentioned earlier has 672 direct lines on it, but the way that it gets to 672 is that it is in fact 28 T1's that are aggregated together to form a DS3, so you have 28 times 24 equal to 672.

JUDGE RENDAHL: Okay, so --

MR. GREENE: This is how that hierarchy works, so there's direct trunk transport, there's MUXing, and there's entrance facilities. When we refer to direct trunk transport, we would be most accurate in describing that as the transport cost component of the LIS tariff, and I will defer to Qwest if you like if I don't have that accurate.

JUDGE RENDAHL: Okay, when we get to Qwest, maybe I can clarify more of these, I'm just trying to -- it helps to know that direct end office transport is sort of the family of those other elements, so we'll --

MR. GREENE: Direct end office trunk is the actual family or facility. Inside of that there would

be direct trunk transport, there may be an entrance facility charge, there may be MUXing charges.

JUDGE RENDAHL: That helps, thank you.

MR. GREENE: And then there's another acronym that also applies to that whole family, which is RUF or relative use factor, which governs who pays for those components based upon the exchange of traffic.

JUDGE RENDAHL: Okay.

MR. GREENE: So the soft switch on a Level 3 side has signaled to the Qwest network, hey, send the call here. Our soft switch would also signal to our media gateway, expect a call to come in on this particular channel. That call would then be physically routed by the Qwest end office switch. The ingress port would be the line side card pointing toward the customer. The egress port would be that direct end office trunk coming back to Level 3, which is that purple line. That purple line would go to a MUX, you know, let's assume that it's just a DS1 or one T1 out to that end office. Those services are aggregated up into a higher level, so that's why that MUX or multiplexer is there because when you have multiple DS1's getting aggregated up into DS3's.

JUDGE RENDAHL: There are two MUX's in that little square, one is Qwest and one is Level 3, so it's

first going to go to the Qwest MUX.

MR. GREENE: Correct.

JUDGE RENDAHL: Okay.

MR. GREENE: And that, as you can see, that MUX has multiple lines coming into it, and then the Level 3 MUX has also multiple lines into it, so these multiplexes are just boxes that are allowing for the aggregation of services onto higher speed circuits.

From there, which -- and all this at this point has happened in our collo facility, the call is traversing a private line, in this case an optical private line between our collocation and our Seattle gateway, where it is so to speak from a modem standpoint of view connected with a customer's modem. So our media gateway again will in the case of a data call or an ISP bound call, and ISP is Internet service provider, I'm not sure that I said that earlier, is going to then go through a handshaking process with a customer's modem.

And if you have ever experienced a dial-up connection, you have probably heard a lot of squealing and screeching that the computer seems to be making, again that's a sort of a human factors feedback that something is happening. But what the modems are doing there is effectively signaling back and forth with one another to establish how they're going to handle error

correction if there's interference on the line that they could introduce errors and the modems need to be able to deal with that. They're also negotiating the speed of the link, how fast they can transmit information back and forth without a certain number of errors. And that handshaking process will take a few seconds to occur.

Once that happens, the user software on their computer will then forward in a RADIUS protocol, which Mr. Cecil has been able to help me out with, the acronym stands for remote authentication dialing service, but it's a protocol that is responsible for the security authentication of users. The user name and password would be sent across the modem link, it would traverse our media gateway, it would follow the dotted lines through the various routers and land on the Level 3 proxy RADIUS server. That server has a connection out to our ISP customer server to validate that the user has the appropriate privileges to get onto the network. That server then sends a signal back all the bay back to the user's software to say yes, in this case you are authenticated and you are able to access the network.

Assuming that the user wanted to first shop on Amazon, they could launch their Web browser. Their Web browser would then send a request out to the Internet. We did not diagram the entire functioning of

the Internet, but effectively I will try and do it shortly. When you type in Amazon.com as an English name or word that we understand, that has to get translated into a series of numbers or an IP address so that the software knows where to route packets to to get the information that is being requested. So that translation happens, and those various protocol conversions happen, and then the user would be connected with the Web page Amazon.com, which could be anywhere on the Internet. At the next moment they could launch their E-mail service or E-mail in-box and then perhaps be connected to another device to download their E-mail.

I won't go through all the complexities, but there are various protocols that happen, you know, throughout this whole process. There's, you know, digital signal protocols, the SONET which is the protocol, synchronous optical networking, which governs how optical services work and self healing services work. There's various Internet protocols, if you look at the listing on the Web page it says first HTTP, which is hyper text transport protocol, and it's a method to exchange information concerning Web pages. E-mail works on another protocol called SMTP, which is simple mail transport protocol. And all of these things work together to provide a usable service or utility commonly

referred to as the Internet for users.

I guess are there any questions on the ISP bound call, because I can go to VoIP next.

MR. WILLIAMSON: I do have one. In your drawing you show a managed modem customer network, is that where the modem, where all modems are kept? I mean does the customer have their own modem, or are there modems that you have that the customer buys the use of from you?

MR. GREENE: What you're referring to sort of in the middle of the diagram is the managed modem customer network. Managed modem is our product name, actually the formal name is 3 Connect Managed Modem. We call it managed modem because Level 3 manages the modems. Our customers do not have their own modems, they are effectively buying a bundle of services from us. That bundle includes interconnection or access to the public switch telephone network. It includes the modem functionality that I just described happening as part of the media gateway. It also for the majority of our customers, AOL is the exception, it actually also includes access to the Internet. So our ISP customers can really focus on the marketing and customer retention aspects of their business, and they effectively outsource the infrastructure component of that to us, a

company like us or a company like Qwest.

MR. WILLIAMSON: Are all the modems that your customers access in the state of Washington, are they all in Seattle?

MR. GREENE: That is correct, all the modems that Level 3 uses are in Seattle, and actually Seattle serves the Pacific Northwest. Our customers in Oregon are using the modems in Seattle, and Idaho and Montana are also using the modems in Seattle. We have aggregated that modem functionality in a number of key areas throughout the United States. There are 13 main areas where we aggregate our modem functionality and serve usually a multistate area with those modems. In the Qwest territory, Seattle, Denver, and Phoenix are the main aggregation points, and we serve the predominance of the Qwest 14 states through those 3 areas.

The reason, and it's actually a good point, I think it's somewhat important, is one, I mentioned earlier Level 3 has 1 billion minutes of use that's in its network every single day. We feel we're a vital component to the utility of Internet or dial Internet access here in the United States. The only way that we were able to do that has been through the aggregation of these devices and being able to deploy new technology

that has the capacity to deal with a number of calls at one time.

And that aggregation is important, one, because we have quite frankly a lower cost per unit because we have bigger boxes that handle more calls that we can put in one place. There's also a lower operational expense, we don't have to have technicians with spare parts and trucks running across the country to try and serve modems all around the nation.

We have talked with analysts and we have talked with our customers, we estimate that 90% of the dial-up access that happens in the United States is performed through wholesale carriers such as Level 3, Qwest, and Verizon business which was formerly Union Net, we are effectively, our three companies are the predominant majority of the mechanism or utility that ISP's use and then somewhat indirectly customers use to access the Internet through dial-up.

And that's why this case is so important to us because, again not getting into the advocacy of it, but we obviously have a difference of opinion on whether or not our architecture is a valid one. We have had this architecture in place since 1999 here in Washington, so it has been a service for a number of years and operating and growing, and actually at this

point somewhat shrinking. It is widely known through analyst reports and other things that the dial-up market is a shrinking market. People are moving to cable broadband services, DSL services, because they want a faster pipe and the ability to use other applications that are on the Internet such as streaming video or streaming music and other things that require more bandwidth than a simple dial-up connection can deploy. What we have found though is that that shrinking is generally concentrated in urban areas where other providers have built out their network, and we don't see as fast a decline in the rural areas where there aren't competitive choices for dial-up access for end users, so having nowhere to migrate to, they simply aren't.

MR. WILLIAMSON: One or two more. And you mentioned rural areas, if a customer made a modem call from outside the Seattle LCA local calling area, could you, and not one of the ones you have on your diagram, could you explain how that would get to you?

MR. GREENE: Sure, why don't we maybe use the Pasco, and I'm not sure that Pasco is a major urban center or not in Washington, I apologize for my lack of geography, but that may be a town where there may be just say one Qwest switch serving that end office. In the case of Pasco here in Washington, we do not have

either direct trunk transport or a point of interconnection located in that area. What happens there is that again the Qwest switch is signaling out to the network how to route this call, and the network signals back, well, you have to route that call by first sending it to this other switch. So the Pasco switch would then send the call to the Yakima switch, and then the Yakima switch would then put it onto a direct end office trunk to bring it back to Level 3.

JUDGE RENDAHL: In Seattle?

MR. GREENE: In Seattle, correct.

MR. WILLIAMSON: And here's where it gets a little confusing, I think you have said or you have said in testimony that there's one POI per LATA; did I misquote that?

MR. GREENE: We have certainly said that in testimony. We have multiple POI's in Seattle. Between our interconnections with Qwest, Verizon, and Sprint, we have I believe 15 different POI's or points of interconnection in the state of Washington, I'm sorry, I just said Seattle. I would have to pull it up, I don't have it right in front of me, but I believe we have POI's in Spokane, we have POI's in Seattle, we have a POI in Tacoma, I believe there's a POI in Walla Walla and I believe one or two others, but I can get you that

exact list. So but there is because of our network needs the establishment of POI's in other areas.

When we establish a point of interconnection, we are not simply doing that for the exchange of traffic. Often times, and this should also be in my testimony, we're serving some of our business or other wholesale customers. So we will take a large circuit out, use part of that circuit to establish a point of interconnection to exchange local traffic with Qwest, and then we would use the other part of that circuit to have loops or direct connections to our customer facilities in that area as well. So as we build out and expand our network, we're doing it for multiple purposes and not just simply the exchange of traffic.

We have taken a position not just in this state but in others of where we can -- where we have extended our network, we do like to get the traffic on our network as quickly as possible, because we are under service level agreements or SLA restraints in our contracts with our customers which obligate us to have a certain amount of up time, meaning that the network needs to be available 99% of the time. If it fails, it needs to be repaired in less than four hours and other constraints as that. And if we, you know, relied solely upon other carriers for that, it would be very difficult

for us to live up to those SLA requirements in our contracts with our customers. So we have established multiple POI's throughout the various LATA's.

MR. WILLIAMSON: And I apologize, because you probably don't know that Pasco and Spokane are in the Eastern Washington LATA, not the western side, but I guess my question was leading up to in this case Pasco and Yakima do not go to the POI in Eastern Washington, which is in Spokane, but go directly to the POI in Seattle?

MR. GREENE: That's how, when we did the research of how the network is architected, that's what the inventory systems told us. What we have found, and I think this is a general variable and there might be some disagreement with this, but as telecommunications networks have evolved, and certainly again one of the reasons why we have aggregated our facilities, is that transport has become the minority cost component compared to switching, and so you're able to use a lot of transport in the network to bring things back to a central location.

So instead of having to put, you know, switches out everywhere, and I guess another component of that is transport has also become much more reliable, and Mr. Wilson can keep me honest here, but 30 or 40

years ago transport was somewhat unreliable. You had microwave communications that established links that could be affected by weather. They were very expensive to put up and maintain. And you had to deal with that in your architecture, and the way to deal with that was to put intelligence further out into the network, because the network had to have the ability to route around problems.

There was also physical limitations where you had what's commonly referred to as signal attenuation. If you recall, that voice conversation is literally an electromagnetic signal or frequency that's put out into the line. The longer that line is, the softer that signal gets. If the line is too long, the device on the other end just simply can't hear it, and so you had to have things closer together. As I understand it, that led to an architecture we see in the PSTN today where you have end office switches that are located, you know, near, very close to customers, and then you begin to aggregate those things up through tandem switches and other things.

When Level 3 began to design its network in the late '90's, we didn't have the same constraints around the reliability and cost of transport. We also had the ability to use at the time a newer technology

available to us in the essence of Internet protocol and its ability to really put even more intelligence into the network by having packets that can go to any destination based upon its address versus having hard and fast connections between two locations. Those, you know, economic variables plus the technology available to us at the time caused us to design our network in this manner. I think if you look at other, you know, recently built telecommunications networks, Qwest's long distance network does not put switches out in every local calling area, they aggregate those switches and points and use transport to bring those calls back. So that architecture in modern times has been replicated, you know, certainly not just by us but by other carriers.

JUDGE RENDAHL: I'm just going to start to get concerned about time here, and at our break I need to talk about how much time we estimate per person, and so if you can limit your response to the technical question that somebody is asking, then that would be helpful. Go ahead.

MR. GREENE: Understood.

MR. WILLIAMSON: Just another clarification, from the Qwest tandem at Yakima, your call would flow over LIS trunks to the Seattle POI according to your

diagram; is that correct?

MR. GREENE: That is correct.

JUDGE RENDAHL: And when you say LAS, what do you mean?

MR. WILLIAMSON: Local inter --

JUDGE RENDAHL: Oh, LIS?

MR. WILLIAMSON: LIS.

JUDGE RENDAHL: I thought I hear LAS.

MR. WILLIAMSON: I'm sorry, LIS.

MR. GREENE: LIS trunk.

MR. WILLIAMSON: LIS trunk.

And a customer in some other town than Pasco that is served by the Qwest tandem would follow the same flow if they make a call to one of the numbers that you own?

MR. GREENE: That is correct. It might be helpful if I did -- and I believe it's -- which exhibit is the map?

JUDGE RENDAHL: It's MG-2, and it's a confidential exhibit.

MR. GREENE: I will be willing to waive confidentiality on that.

JUDGE RENDAHL: Do you want to talk to your attorney about that quickly.

Let's be off the record for a moment.

(Discussion off the record.)

JUDGE RENDAHL: First question is, what are we doing about confidentiality of this exhibit?

MR. GREENE: We did waive confidentiality in other states on a similar exhibit, and after discussing with my counsel, we will waive confidentiality here.

JUDGE RENDAHL: Okay, so for purposes of what's been marked as Exhibit MG-2, it is not designated as confidential or should not be designated as confidential?

I'm seeing a nod.

MR. CECIL: Correct.

MR. SMITH: We're talking the map of Washington?

JUDGE RENDAHL: Correct, and this was filed with Mr. Greene's testimony marked as Exhibit MG-2.

Okay, go ahead, Mr. Greene.

MR. GREENE: So in an attempt to sort of quickly answer the question here, what we have done with this map is attempted to break traffic out in the localities out into the various categories. The green shaded area is things that are local to our modems, our media gateway, the device that provides the modem functionality.

JUDGE RENDAHL: Mr. Greene, actually the

exhibit that we have as MG-2 is slightly different, it doesn't have all the color gradations that you have here.

Lets be off the record for a moment.

(Discussion off the record.)

JUDGE RENDAHL: After some discussion, both what's been marked as MG-2 in Mr. Greene's pre-filed direct testimony and the map that's up on the screen right now, there is no confidential designation. The map that's been designated as MG-2 doesn't have as many color gradations on it, and I have asked Level 3 to submit this map to all the parties, and we'll mark it as MG-7.

MR. GREENE: So the question was, how does traffic in other areas besides Pasco route to Level 3. This map that we will submit as an exhibit attempts to demonstrate that via various color shadings. The shading in green designates rate centers that are local to Level 3's media gateway. The yellow shading designates rate centers that are local to a Level 3 POI which would follow the architecture that's outlined for the Spokane area.

JUDGE RENDAHL: In your Exhibit MG-3?

MR. GREENE: In MG-3.

And then the --

JUDGE RENDAHL: I'm just trying to clarify with Mr. Greene that when he talks about a yellow designation on what we just marked as MG-7 he said it refers to the POI for the Spokane area, which is diagrammed on his Exhibit MG-2. I'm just trying to clarify for the record what we're talking about as demonstrative exhibits.

MR. GREENE: Okay.

And then the red or pinkish shading would follow the architecture that's demonstrated in either the Pasco or Yakima on the MG-3 exhibit.

JUDGE RENDAHL: Thank you.

MR. GREENE: And then the last color is the gray. There are some rate centers in the Qwest footprint where Level 3 does not offer its services.

JUDGE RENDAHL: Okay, so were you going to describe how things move further based on this map?

MR. GREENE: No, that was all I had with this map.

JUDGE RENDAHL: Okay. Were you going to describe how a call was made from say a yellow or pink area, or have you done it through MG-3 already?

MR. GREENE: I believe I have done it through MG-3, so I described the call flow from Seattle. Effectively the call flow is very similar in Spokane,

it's just that we do not have a collocation, and then there's just further distance from Spokane back to Seattle if Level 3 is carrying that call. In the case of Yakima, Qwest and Level 3 have put a LIS trunk from the Yakima switch back to the Qwest POI. However, that LIS trunk is not something that Qwest is purchasing, or excuse me, that Level 3 is purchasing, and so we consider it to be what is I guess described as VNXX or virtual network services, because we do not have any physical plant in that local calling area that we're using for the exchange of that traffic.

JUDGE RENDAHL: Okay. Now were you going to describe a VoIP call?

MR. GREENE: Yes, I was.

JUDGE RENDAHL: Okay.

MR. GREENE: So I will go to that next. Still on MG-3, and I guess in the interests of time, the --

JUDGE RENDAHL: Now I don't mean to rush you, I just wanted to get a sense of where we were.

MR. GREENE: No, I don't feel rushed at all, and I guess if you want me to step back, it might offer some clarity, but just as that modem if you will recall would pick up and seize the line to make an outbound call to an ISP number, the same line could be used by a

PSTN customer with their normal telephone handset to outpulse or dial out to one of our VoIP customers. So the end office switching, the tandem switching, the movement of that call, the SS7 signaling, all works exactly the same as it does in the ISP bound call. There is no difference between the two call types.

The only difference is that when it gets to our media gateway, it is instructed by the soft switch that there is a voice call coming, so it does not begin a modem handshaking process, it simply converts that voice call into IP packets. The soft switch in setting up that call with the media gateway also has an additional step to perform, which is because that call is not destined for the Internet, it needs to check in with the VoIP provider's network to confirm that that call can be accepted and be routed. So the Level 3 soft switch connects to another device, which is the core proxy server sort of in the middle of the diagram.

The soft switch is providing the switching functionality that allows for the call communications to happen between the PSTN and the Level 3 network. The core proxy server is providing the routing capabilities across our IP backbone, so it's responsible for moving that call from one end of the backbone to the other. It does -- it's important to have that device there because

of a characteristic, multiple characteristics but most important one is latency. If the -- latency simply refers to delays in the call string, and if there are delays in a call stream, they can manifest themselves in the form of clipping, in the form of echo, or in just simply taking a long time for somebody else to hear and it sounds of a very low quality.

The core proxy server also communicates with another device called the edge proxy server, and the edge proxy server is responsible for effectively the switching, IP switching of that call between the edge of the Level 3 network and the VoIP provider's network. So you really have three devices that are lined up here that are providing functionalities, switching functionalities, the soft switch which is one edge of the Level 3 network to the PSTN, the core proxy server which is the interior of the Level 3 network, and then the edge proxy server which is the other edge of the Level 3 network and our VoIP customer's network.

Our VoIP customer would also have a soft switch that they would use to provide services to their customer. Services such as call waiting, call forwarding, other classified feature sets that would -- you would think of in a traditional PSTN switch, and you can -- so if we were to trace this diagram out, the

media gateway has received the call from the PSTN, the soft switch has signaled through the core proxy server, the edge proxy server, and the VoIP customer switch, which is ultimately connected through a broadband connection to the VoIP phone at the far right-hand side of the diagram. All those devices work in unison to provide the call path in a VoIP scenario.

JUDGE RENDAHL: Okay.

MR. GREENE: Any questions on that?

JUDGE RENDAHL: I don't right now.

MR. WILLIAMSON: Just a quick one. I noticed you have a local number portability server, LNP.

MR. GREENE: Correct.

MR. WILLIAMSON: It queries for a ported number for a VoIP call, do you use it at all for modem also?

MR. GREENE: No, it's not used for modem. The LNP server is actually used in the opposite direction. As that VoIP handset goes off hook and looks to make an outbound call, if it's destined for the PSTN, we need to know how to route that number, and so we actually do a LNP dip or local number portability dip, which is basically checking the database to see who owns the telephone number so that we can choose the appropriate trunk to route the call on. But it's for

calls in the opposite direction, which I guess is a good point. This same network is facilitating traffic in both directions. We consider a call to be VoIP if one end of the call is an IP end point. It doesn't matter the directionality of the call, it doesn't matter who is calling who, so long as one end of the call is an IP end point served by a broadband connection.

JUDGE RENDAHL: I have one question about this particular exhibit, and it's just clarifying. In the connection between the Seattle central office collocation center, there's a private line on Level 3's network that goes first to the Level 3 DACS, D-A-C-S, can you explain what that is?

MR. GREENE: That is a digital access cross-connect system. A MUX, as you recall, takes DS1's, puts them up to DS3's, and perhaps DS3's aggregates them up into an 023, but it's typically taking sort of a many to one relationship. A DACS can perform the same functions, but it has the capabilities to do many to many. So in putting things through a DACS, it allows us greater functionality. If you recall, you have 24 DS1's that you can put onto a DS3. If you wanted to put that second DS1 onto another DS3, you would have to run it through a DACS to move it out to that second DS3.

JUDGE RENDAHL: Okay.

Do you have more in your presentation?

MR. GREENE: I just had one more exhibit that I wanted to spend maybe five minutes on, and that was it.

JUDGE RENDAHL: Okay, why don't we do that and then take a break, and then we'll come back, and Mr. Williams and I will have questions and then Qwest will have questions.

Let's be off the record for a moment.

(Discussion off the record.)

(Recess taken.)

JUDGE RENDAHL: We're now talking about Exhibit MG-4.

MR. GREENE: Yes, so I have it on the board here in the room, and what this exhibit is doing, and again this is one of the things that came out of our technical conference we conducted in Oregon where we sat at the table with Qwest and tried to work through how we do things, it attempts to demonstrate the method in which Level 3 employs to provide service to its ISP customers and how we understand Qwest provides services to its ISP customers. The bottom portion of the diagram, well, I should say the majority of the bottom portion of the diagram are Level 3 devices and the Level

3 call path. The top portion of the diagram is a Qwest call path.

JUDGE RENDAHL: So for purposes of the colored version, the blue solid and dotted lines are Level 3 call and signaling paths, and the black is Qwest call and signaling paths?

MR. GREENE: That is correct.

JUDGE RENDAHL: Okay.

MR. GREENE: So this diagram is very similar to the Exhibit MG-3 that we just went through from a call path perspective. Here we have an end user with their modem connected to a Qwest end office switch. That switch, once it gets the signal to start a call from a modem, would send out a signaling request through the SS7 network ultimately to our soft switch. Our soft swift would then tell the gateway, media gateway, to expect a call on that particular trunk. The call would go across the Qwest switch, it would come in on a line side card, it would go out on a trunk side card. That trunk would be provisioned as a LIS, I will use the term LIS port but it's effectively a LIS circuit. There is from that port on the switch a direct end office trunk that's built out to our point of interconnection, which again would have direct trunk transport components associated with it. Would go across our network to our

media gateway and then out through all the other devices explained in the other diagram to the Internet. But effectively you have a private line that provides the transport path for the call, and you have a signaling path, and the two happen to be separated.

With the Qwest service, again user dials phone number, the switch looks to connect that call. The difference there is that instead of the port being provisioned as LIS, it's provisioned as PRI, and I'm not sure if Qwest adopts the name PRS. PRI stands for primary rate interface, PRS is Primary Rate Service, which is I believe a product name that Qwest uses in Washington.

PRI provides for both the transport and the signaling inside of the same circuit. What happens is in that circuit, which in effect is a T1 private line, one of the trunks of the 24 is dedicated for signaling, and the other 23 are used to actually carry calls. The PRI signaling standard is a subset or found inside of the SS7 signaling specification. And that circuit is then directly connected to a network access server or NAS, which in this context stands for network access server. It is sometimes also referred to as network attached storage, but any time that we use the acronym NAS, we would be talking about network access servers.

So as we look at it from a technical point of view, Level 3 has private lines with an external signaling path, Qwest has private lines with an internal signaling path as we see the technical difference in the way that we deliver service.

Any questions?

JUDGE RENDAHL: Not at this point on this exhibit.

Mr. Williamson, do you have any questions on this exhibit?

MR. WILLIAMSON: No.

JUDGE RENDAHL: Did you have any more overall discussion you wanted to give?

MR. GREENE: No, I think I will conclude there, and perhaps if there are questions obviously I will try and answer those.

JUDGE RENDAHL: Okay, well, I'm going to have Mr. Williamson ask any other questions he might have about your overall presentation right now.

MR. WILLIAMSON: And I only have a couple. The first one has to do with the Qwest tandem. The Qwest Seattle area is a little unusual, I think that they have a couple of tandems and access tandems for long distance traffic and their local, and I just wanted to verify that all the traffic that you pass to them

goes on the local tandem; is that correct, do you know?

MR. GREENE: No, that's not necessarily true. We would also pass what's sometimes referred to as JPSA or jointly provided switch access, and that would be a situation where somebody has called a Level 3 phone number, from where they are calling from it requires an interexchange carrier to transport that call, that interexchange carrier is not directly connected to Level 3, they would drop the traffic off at the Qwest access tandem, and then Qwest through its access tandem would route that traffic to us over a JPSA or meet point trunk.

MR. WILLIAMSON: Is that a VoIP call or one of your other services that you talked about where you --

MR. GREENE: It could be a VoIP call. There are instances where I could be a Seattle resident, and I go visit my mother in Illinois, but I don't change my AOL dial in, and I go to connect to the Internet in Chicago, I would actually be using my mother's long distance service to call from Chicago back to Seattle.

MR. WILLIAMSON: Not going to be a happy mother.

MR. GREENE: Perhaps not.

MR. WILLIAMSON: Are there any places in the

Washington area where you convert at a gateway other than your Seattle location and transport via IP?

MR. GREENE: No, the Seattle gateway is the only facility in Washington.

MR. WILLIAMSON: That's it.

JUDGE RENDAHL: Wow, okay, well, I have a few questions about further technical issues or definitions in your testimony.

MR. GREENE: Okay.

JUDGE RENDAHL: Do you have a copy of your testimony in front of you?

MR. GREENE: I do.

JUDGE RENDAHL: Okay, and what I'm referring to is what's been marked as Exhibit MDG-1T, and if you can turn to page 6.

MR. GREENE: And I have to apologize, Your Honor, I don't believe my paralegal gave me the exhibits.

MR. CECIL: Yeah, she did, I put the exhibits on there.

MR. GREENE: Hard copy.

If you have another one, or we have it electronically and I can put it up on the screen.

JUDGE RENDAHL: I don't think we need the screen version.

MR. SMITH: And, Your Honor, you're referring to the original direct testimony?

JUDGE RENDAHL: Yes, the original direct testimony, which is MDG-1T, and I understand, Mr. Greene, you filed supplemental testimony designated as MDG-6T.

So if you can refer to page 6.

MR. GREENE: Of 1T?

JUDGE RENDAHL: Of 1T.

MR. GREENE: All right, I'm there.

JUDGE RENDAHL: Beginning on line 8, actually on line 9, you refer to a Tier 1 Internet backbone facility, what is a Tier 1 facility?

MR. GREENE: The Internet by definition is a network of networks, and the tiers are really based upon how your network connects to other networks and degree of backbone services that you provide. So as a Tier 1 Internet backbone, we have access to all the other networks that are out on the Internet. Somebody who was not a Tier 1 backbone provider, let's say I'm Acme ISP, I may have my own small little network, but I only connect to one other network, I would not be considered a Tier 1 provider because I don't have access to all the other backbone networks of the Internet.

JUDGE RENDAHL: Okay, great.

If you can turn to page 13 and the sentence starting on line 6, you refer to -- you're talking about the same information as you talk about in MG-4 here, the difference between how Qwest does some signaling and Level 3 provides the signaling, but you also talk about DID service, as I understand direct inward dial; is that correct?

MR. GREENE: Correct.

JUDGE RENDAHL: And so I could begin to understand what we were talking about here today, I did a little bit of research in Newton's Dictionary, and the way Newton describes direct inward dialing is:

The ability of a caller outside a company to call an internal extension without having to pass through an operator or attendant.

Now I don't think that's how you would describe direct inward dialing, or maybe it is?

MR. GREENE: It is how I would describe it, because what physically happens there is that you, with direct inward dialing, you are assigning a phone number to each station or each phone that you have inside of a company. If I'm a business and let's -- I will just use my favorite business name, Acme, and I have 100 employees, I will have 100 phones throughout my business

and 100 phone numbers. I don't necessarily need 100 phone lines, because not every employee will be on the phone at the same time.

So what I would do is I would go to a carrier, either a LEC like Qwest or a CLEC like Level 3, and buy DID service. And what would typically happen is I would have my PBX or private branch exchange, which is effectively a very small phone switch, on my company premise, and I would buy a DID service from the carrier, and typically they will provision that over a T1 line. If you recall, a T1 line has 24 trunks, so effectively a quarter of my employees could be on the phone at the same time. If that 25th employee tried to pick up the phone, he would get either some type of fast busy or some other reorder tone from the PBX. But the phone company knows that all 100 phone numbers that I have that calls come to those 100 numbers should route to that single 24 trunk T1, which ultimately would go to my PBX.

ISP's sort of use that same architecture with the exception being with service that we provide is that they have outsourced all the infrastructure components to us. So instead of stations, there are, or individual phones, there is effectively there are modem ports. And instead of individual DID lines or DID blocks, they are

buying a bundled service from us that includes that component. If you recall earlier this morning I talked about that bundle of things that go into managed modem, the connectivity to the PSTN is effectively a DID service. We're providing a phone number, you know, the ability to directly reach a station without having to go through the operator, and that individual phone number is assigned to a particular ISP.

And some ISP's like AOL if you look in their software, they may have in the Seattle area 10 or 12 different access numbers for you to dial into. We may provide 5 of those access numbers, Qwest may provide the other 5, because AOL wants some level of redundancy if there was a catastrophic problem with one particular carrier. And that DID service is the element inside the bundle that they buy from either of us that gets their dial service available to customers.

JUDGE RENDAHL: Okay, that's very helpful.

And I'm going to have a question for Qwest, not necessarily for Level 3, because it's about Qwest's system, and it's about PRI and again my reference back to Newton's which refers to it as part of an ISDN, and I'm not going to identify what that acronym is because I can't remember at this point, but we'll get to it, and so I might need some clarification from Qwest later on

that.

Later on in your testimony on page 29, you refer to percent local use, percent interstate use, and percent of IP use, and you have some acronyms associated with those, and this has to do with the billing for traffic exchange?

MR. GREENE: Correct.

JUDGE RENDAHL: Okay. And are you all intending to get into the billing issues at all today?

MR. GREENE: Yes, Mr. Wilson will in his presentation talk about the rationale for Level 3's desire to use the network that we have in place today to serve all types of traffic, but very briefly, as you recall earlier, I said there were over 35,000 trunks that are there. There's a good portion of those trunks that remain idle. If people are at work, they're not using their dial-up service at home. We would like to use that existing network to transport other types of calls such as interexchange calls from long distance carriers and also VoIP calls to PSTN users. And as we understand it, Qwest has opposition to us using that network for those purposes.

JUDGE RENDAHL: Okay, then I will defer my questions for Mr. Wilson.

And then just one last clarifying question on

page 43 of your exhibit, your testimony, and again this might go back to Mr. Wilson, but on line 17 you refer to a record 29 identifier, and I'm wondering what that means.

MR. GREENE: In the carrier world, there are various recordings that are made by switches or software or billing platforms, and in certain instances it's necessary for one carrier to transmit information about that call to another carrier. An example of that would be an independent telephone company that doesn't have its own tandem switch. It may depend upon Qwest to deliver calls to it from carriers that it's not interconnected with. Qwest would, as that tandem provider, would be responsible in giving that independent phone company records on what transpired in the call, who was the carrier that made the call, you know, call duration from the two numbers, so that independent company can go to, let's say it's in the case of a long distance call, to that interexchange carrier and collect the switched access charges that it's due for originating or terminating that call. The industry under the guise of ATIS --

JUDGE RENDAHL: A-T-I-S.

MR. GREENE: A-T-I-S, and somebody help me.

MR. WILSON: Alliance for Telecommunications

Industries Solutions.

JUDGE RENDAHL: Okay, and this also, Mr. Wilson, are you going to be addressing that through the exhibit that was distributed?

MR. WILSON: Only at a high level.

JUDGE RENDAHL: Okay, well, that's all I'm really interested in, but I want to make sure I get to the right person.

MR. GREENE: Sure.

So this industry forum through a subgroup that it has, which is referred to as OBF, which I believe is the ordering and billing forum, which is a group of industry participants, various carriers coming together, defined standards for the exchange of information between carriers. They have a standard for the exchange of messaging records that's standard, includes all information that you would need to determine the duration of a call, the from and to phone numbers, and other information. One of the bits that can be transmitted inside that record could be found in indicator 29, where if you were to set the value to I believe it's 3, that would denote that that call was transmitted through the use of an enhanced service provider. So there is an industry standard means for carriers to exchange information that denotes a call as

switched access or VoIP.

JUDGE RENDAHL: That helps.

MR. GREENE: Okay.

JUDGE RENDAHL: Thank you. I don't have any other technical questions about your exhibits or the testimony at this point.

Mr. Williamson, do you have anything further?

MR. WILLIAMSON: Just a follow up to that.

The indicator 29 or record 29, is that normally transmitted via SS7 for LIS type trunking or -- I will just stick with the first part, is it normally used for normal trunking?

MR. GREENE: No, these records are actually transmitted after the call, so currently today there is no standards base means of denoting a call as VoIP or enhanced inside of the SS7 stream. The OBF is currently working on a solution for that. They have looked at perhaps setting the originating line indicator or OLI to a particular value. They are also looking at using the call forwarding bit or perhaps using another field which is called the JIP, jurisdictional information parameter, to signal calls as VoIP, but that standard process is still underway. These records would be exchanged after the call, and they're commonly used between all carriers to handle the settlement of compensation for calls.

MR. WILLIAMSON: Is Mr. Wilson going to cover how that works in general?

MR. GREENE: I would be happy to cover how that works in general.

MR. WILLIAMSON: Okay. How do you know, how do you pass the information on if it's not transmitted during the call, how do you know which call is a VoIP call or a modem call or a voice call?

MR. GREENE: Well, there are really two methods that we can employ and that we do employ to validate or designate these calls. The first, which in our case is more commonly used and the one that we use, in the rest of the country the other three RBOC's have agreed to allow for a single trunking architecture, is the use of factors. So both sides can record how many calls and how many minutes went across their network. Where Qwest seems to have issue is that it can't distinguish which minute is which. If you recall, there are multiple types of traffic, there will be local traffic, there will be VoIP traffic, and there will also be interexchange traffic or long distance traffic that we would propose to exchange over these trunks.

For the interexchange traffic, our proposal is that we would compensate Qwest the exact same way that they would be compensated if we bought Feature

Group D trunks from them, which is typically what interexchange carriers purchase for the termination of traffic, but that would require us billing out or maintaining two separate networks, which is terribly inefficient for us, and Mr. Wilson will talk to the efficiencies of that. But since we know how many minutes were sent across a particular link, the side that has the better reporting capabilities or knows more information about the call will file a factor. The first factor is the percent interstate usage or PIU, and that basically tells you how of the 100 minutes that were sent, what percentage of those calls are interstate. And then of the remainder of that, you apply a PLU or percent local factor so that you can distinguish what percent of the remainder is local and what percent of the remainder would be subject to intrastate compensation. That's a method we use with AT&T, formerly SBC, BellSouth, and Verizon.

The other method if you did not want to use factors -- and factors are subject to all the audit provisions of the ICA, so there really isn't room for a carrier to cheat because they can be audited at any time to validate that their factors are correct. The other method if one side required that they had every single call and they wanted to rate those calls themselves

would be to exchange the call detail records or CDR's, and the industry has a standard format for the exchange of that. Typically we will set up some type of computer link between companies, and one company would basically batch download the records into their systems so that they can, you know, initiate whatever billing that they wanted to bill.

So there are really two methods that are available, either the factors based approach which is the easiest, or if you wanted to rate on a call-by-call basis, you could use the records based approach.

MR. WILLIAMSON: I'm a little confused then with the record 29, which I thought was a per call record; is that not the case?

MR. GREENE: It is, and actually it's the record format would actually be 110101, which is the switched access record format that if you think of the record as a long list of information, think of it as a row, and each column represents an individual row, that row may be let's say, and I'm making up the numbers I don't know the exact amount, but 500 characters long, indicator 29 is in position 200. So a company could know that if I looked at position 200 of that row, I could determine if the call is VoIP or not. That's written into the standard, and that's what indicator 29

is doing for the records exchange, and there is an individual record or individual row for each call.

JUDGE RENDAHL: So in a factors based analysis, do you still have those records, you just don't transmit them to the company on a call basis?

MR. GREENE: No, we would actually in a factors based world would do both. But from a billing perspective to just facilitate the billing, you would use the factors, and then you could audit the factors using the actual records if you wanted to. But processing, again in the case of Level 3 we've got, you know, close to a billion calls that happen every single day, the data processing horsepower that's necessary to go to each individual record and look at it is enormous versus just simply saying I transmitted 100 million minutes, this percentage says this amount gets settled to this, this percentage says this amount gets settled to that, and you move on. And for, you know, the tens of millions of calls that we're transmitting to Verizon, BellSouth, and AT&T, that's the method we use.

MR. WILLIAMSON: And so to set those factors, you would do traffic studies or some type of a study at normal intervals or once at the beginning and then revisit that at some point in the future to make sure that the factors remain the same?

MR. GREENE: That's correct. Generally factors are exchanged between carriers on a quarterly basis. The business policy that we have been using with our other RBOC partners is we have been doing it monthly because we -- and at least last year we were ramping the traffic up and it had -- there's a great likelihood that it would change from one month to the next, so we did update and file those monthly. Because the Level 3 systems are updated enough to know exactly what type of traffic is being sent out, the concern seemed to be that the LIS trunks don't have that ability. But again, we have offered up two solutions to resolve that.

MR. WILLIAMSON: I'm sorry, I was just going to ask you again a clarification on I think I understood you to say that Level 3 will send the records even though you don't use them for billing per call?

MR. GREENE: Yes.

MR. WILLIAMSON: But the billing system between the two companies will send those records, but instead of using them on a per call basis, you will set a factors, or that's what you would like to do, set factors based on traffic studies that could be audited at different times?

MR. GREENE: Exactly.

MR. WILLIAMSON: But the information is

transmitted?

MR. GREENE: Yes.

MR. WILLIAMSON: Between companies?

MR. GREENE: That is correct.

MR. WILLIAMSON: Thank you.

JUDGE RENDAHL: I don't have anything further, so why don't we turn it over to Qwest at this point.

MR. SMITH: I think Mr. Brotherson has a handful of questions, as does Mr. Linse, and I think that's all we have.

JUDGE RENDAHL: Okay, please go ahead, Mr. Brotherson.

MR. BROTHERSON: I have a couple of --

JUDGE RENDAHL: You will have to speak right into the mike so we can all hear you.

MR. BROTHERSON: Is it on?

JUDGE RENDAHL: You are on.

MR. BROTHERSON: Mr. Greene, I had just a few questions around the media gateway. I think you said they were -- you built out in 1999, is that when the media gateways were placed?

MR. GREENE: Yes.

MR. BROTHERSON: I think you indicated these were in Denver, Seattle, and Phoenix?

MR. GREENE: The ones that serve the Qwest territory.

MR. BROTHERSON: In the Qwest territory. Any media gateways serve Qwest territory besides those three?

MR. GREENE: Yes, I believe Los Angeles and Chicago may serve certain areas of Qwest.

MR. BROTHERSON: Or maybe Portland or Iowa, Portland, excuse me, Oregon out of San Francisco?

MR. GREENE: That could be possible, but I don't believe in the case of Oregon, I think there may be some redundant trunks in Arizona that are served out of Los Angeles, but they're more there redundant trunks. Phoenix primarily serves the Arizona area. Oregon because of the stuff we have done in that state I know all comes back to Seattle. I believe Iowa is served out of Chicago though.

MR. BROTHERSON: And have these media gateways ever been relocated, or have they always been in these locations? I guess I'm trying to say have there been more that have been consolidated, have they been expanded from just one, do you know?

MR. GREENE: Yeah, I mean there have been more than one based upon acquisitions as one example. We may buy a company that has a media gateway

functionality in its network, and it's been our process to consolidate that back into the central locations that we have out there. I know that was the case when we purchased Genuity.

JUDGE RENDAHL: I'm sorry, can you repeat that name.

MR. GREENE: When we purchased Genuity.

JUDGE RENDAHL: Can you spell that.

MR. GREENE: G-E-N-U-I-T-Y, not the best at spelling.

JUDGE RENDAHL: It's not a test, just for the record.

MR. GREENE: That they had locations that we did consolidate. I would have to do some research to determine, you know, which sites were original, which sites were acquired through acquisition, and then which sites were up at one point and then decommissioned.

MR. BROTHERSON: So Level 3 may have had more than the three media gateways that you mentioned earlier at least initially?

MR. GREENE: In the Qwest territory my intuition would be no. Most of our acquisitions have involved companies on the East Coast. There has only been one that was recent, which was the acquisition of some of the components of ICG, but I believe they were

-- they had their or have their infrastructure in Denver.

MR. BROTHERSON: The managed modem service, if I understand that, rather than the ISP having to own the modems, Level 3 performs that function for them or on their behalf and they pay for that service?

MR. GREENE: That's correct.

MR. BROTHERSON: Did Level 3 ever do any delivery directly to ISP modems before managed modem service, or have you always performed that modem answering service on their behalf?

MR. GREENE: As I understand it in our 3 Connect modem product, the demand of that product has always been that the ISP outsources that functionality to us. We have other products that an ISP could buy such as, you know, direct inward dial service if they wanted to use their own modems, but for the context of what we consider to be ISP bound traffic, it is the domain of our 3 Connect modem service, which has the modems outsourced from the ISP to Level 3.

MR. BROTHERSON: I think you said AOL's network was different, does AOL answer their own calls, or do they use the managed modem service?

MR. GREENE: They use the managed modem service. The difference is that instead of using our

backbone, which allows access to the Internet at large, the traffic is first routed to the AOL network, and then from there it's delivered to the Internet at large.

MR. BROTHERSON: Thank you. I have one other question, but I'm trying to recall what it was. Oh, I think you said 90% of the dial-up business or to dial-up Internet providers is handled by three companies, and I think you said Qwest, MCI, and Level 3?

MR. GREENE: That's correct.

MR. BROTHERSON: When you said Qwest in that example, you were referring to QCC?

MR. GREENE: As I understand it, the service, the wholesale dial service which I believe is the name is offered through the QCC subsidiary of Qwest, as I understand it.

MR. BROTHERSON: I think that's all I have.

MR. SMITH: Then Mr. Linse has just a similar handful.

MR. LINSE: Hey, Mack, how are you doing?

MR. GREENE: I'm doing fine, thanks.

MR. LINSE: At the beginning of your presentation, and I don't know if we can maybe go back to that first drawing.

MR. GREENE: That first drawing.

JUDGE RENDAHL: Mr. Linse, if you can make

sure you speak really close to the mike. I can hear you, but --

MR. LINSE: All right, I'll get it in front of me.

JUDGE RENDAHL: So you're looking at MG-3.

MR. LINSE: Okay, on the purple line that runs between what you have identified as the Yakima and Seattle local calling areas.

MR. GREENE: Yeah.

MR. LINSE: You said that was a jointly provisioned circuit, and I was under -- I understand that to be totally provisioned by Qwest, and I don't know if you had a port, if there was a portion of that that I'm missing that Level 3 provisions?

MR. GREENE: Yeah, as I understand the process, we have an interconnection agreement that we're operating under today that has provisions that if there's a certain amount of traffic to a particular end office that we should establish a direct end office trunk to it. So what happens is our provisioning group generates an ASR, an access service request. That access service request is then delivered via actually an electronic system to Qwest. It tells Qwest what -- and I believe I'm not the most proficient in this, what axle, which is effectively a particular point, an

interconnection point, it's a port on a device to connect the circuit to, and Qwest then goes about provisioning that circuit out to the switch. That port or the axle that is used is the MUX that we have in our collocation. From the collocation that direct end office trunk still needs to go back to our media gateway so that it appears as a discreet element. Then, and I'm not sure if this is inside the ASR or it's done by LSR, both companies will build what's known as translations in their switch, so we will build in our soft switch a translation that says this particular trunk group, and it's referred to as something called a 26 code, which is the identifier of the trunk group, is handling calls from this area and these phone numbers, and Qwest will provision a similar type of set of instructions into its switch. So given that provision, activities happen on both networks, on each party's respective network, and the fact that if one party does not do its respective work, then the circuit would not work, I consider it to be jointly provisioned.

MR. BROTHERSON: Excuse me, if I could interrupt for just a second, and I meant to address this in my presentation, but since we've got some questions going on around this matter I wanted to raise it now, the picture indicates DTT from Yakima to Seattle. I

believe Yakima is in the Spokane LATA, and I was going to confirm this over lunch. If that's the case, Qwest would not be provisioning any interLATA facilities. Our Yakima tandem would be connected to the Spokane tandem for the Spokane LATA. And I just need to double check that in your example you might have connected an Eastern Washington local calling area, namely Yakima, to the Seattle tandem instead of the Spokane tandem?

MR. GREENE: No, I would agree that the general principle is that the LIS trunks do stay within the boundaries of a LATA. Every now and again -- and typically that's how we order it, and that's how you provision it, every now and again there are exceptions made. We can take that back and double check it in our systems and see if there was an inventory error or something that caused that to appear that way.

JUDGE RENDAHL: Okay, if you all can clarify that over lunch.

MR. LINSE: Just for the record, I did clarify that in my own data, and that connection doesn't or that transport does not exist between our network and Level 3's.

JUDGE RENDAHL: So you're saying that there is no connection that Qwest has in its records of a direct --

MR. LINSE: Trunk transport.
JUDGE RENDAHL: -- DTT between Yakima and Seattle?
MR. LINSE: Correct.
JUDGE RENDAHL: Okay.
MR. GREENE: Over lunch we can check that out.
JUDGE RENDAHL: Why don't you all discuss this over lunch and see if we can clarify how it actually works from Yakima to the Level 3 network, and then you can clarify that afterwards.
Mr. Linse, did you have more questions?
MR. LINSE: Yeah, I wanted to clarify though that the transport is not provisioned by Level 3?
MR. GREENE: No, that --
MR. LINSE: Between those two local calling areas?
MR. GREENE: That's correct, from the -- for illustrative purposes, that purple line that goes if it's, you know, were in fact, subject to check, a direct DEOT, that would be provided by Qwest. It's on Qwest's side of the POI, and that facility is provided by Qwest.
MR. LINSE: Okay.
MR. GREENE: And owned and operated by Qwest.
MR. LINSE: And then one additional thing

about in New Mexico you went through an example of how you guys do business with other companies that do both VoIP, have like a VoIP business as well as a long distance business, and you explained on how Level 3 distinguishes the difference between the traffic based on the separate connections that those companies, that you require those companies to have with your network. Can you kind of explain, and you can use whatever examples you want with your customers, I was just kind of looking for, you know, the explanation on that one as well.

MR. GREENE: Sure, be happy to do that. As Mr. Linse says, we went over this in New Mexico, we have also talked about it here, is that we would want to exchange all types of traffic over this infrastructure, ISP bound, local, VoIP, interexchange traffic. Interexchange or IXC traffic is important to segregate because it has a different settlement mechanism attached to it. The settlement mechanism is governed by the switched access tariffs that Qwest has on file that have been approved by the Commission, and if we were to send minutes of traffic of that class, we should pay Qwest both the per minute and the facility fees that are associated with that traffic. Just as we do for each VoIP provider in providing an edge proxy server or a

dedicated means for them to interconnect to our network, we also do the same for interexchange carriers.

For our VoIP customers, for their traffic to be considered enhanced, they have to amend their customer agreement with us to certify that the traffic that they're sending to us is enhanced. We don't want to be in the business of people just giving us a handshake and saying, hey, this is VoIP, treat it specially, we do require them to certify that it's VoIP. For those that do not or those that such as let's pick a long distance carrier, AT&T, who may use Level 3 to terminate its minutes, would have traffic that comes over a separate dedicated point. And based upon the segregation of those interconnections to our network, and we do one or two on a national basis with each of these carriers, we can tag the traffic as either being subject to tariff and special access, tag it as VoIP, you know, or tag it as local. We don't really have ISP bound traffic leaving Level 3 and going to Qwest. All that traffic is leaving Qwest and coming to Level 3.

Did I answer your question?

MR. LINSE: Yes, thanks, Mack.

That's all I have.

MR. SMITH: That's all the questions Qwest has.

JUDGE RENDAHL: Okay, why don't we try and get through Mr. Wilson's initial presentation. I will try to hold questions until after we get back from lunch, so please go ahead, Mr. Wilson.

MR. WILSON: Thank you. I will try to make my presentation relatively brief. I will have a number of questions for Mr. Linse, I think that will be an efficient way to get some of the issues out.

JUDGE RENDAHL: And you plan to do that following his presentation?

MR. WILSON: Yes, I do.

JUDGE RENDAHL: Okay.

MR. WILSON: Mr. Greene I think has given you a very good pretty detailed view of how the Level 3 network works and how some of these calls flow. I'm going to try to briefly hit some of the issues that are before us here today, and I think this is appropriate maybe for me to do, because Qwest has been talking with CLEC's on some of these issues for a decade now, and I was involved in many of those conversations that started ten years ago.

Let me begin with sharing trunks. Level 3 wants to be able to use its existing interconnection network to also put long distance traffic over the same trunks. This was an issue that was discussed here in

Washington at great length years ago. I remember putting diagrams on the board in this room at that time. This is really the same issue that we discussed then. I noted in preparing for this case that Washington State ruled that sharing trunks was efficient and that the CLEC's should be able to do that. But now Qwest is not accepting the language that Level 3 is proposing, and I think we need to understand why that is. I don't think I need to repeat all the arguments about network efficiency, I have some of it in my testimony, and I believe Your Honor was present at many of the hearings where we discussed that at great length.

JUDGE RENDAHL: In this same room, yes.

MR. WILSON: In this same room on the same board actually with diagrams. The efficiencies of network engineering haven't changed in the intervening time. It is still much more efficient to utilize single large trunks rather than two smaller trunks for the traffic. I think we have an even more compelling issue here, as Mr. Greene briefly stated, since Level 3 has a great deal of Internet traffic, dial-up and otherwise, and is also having an increasing amount of long distance traffic. The time of day for that traffic tends to be a little different, and so you get even better efficiencies by using the same trunk groups for both

types of traffic.

I think the main issue that Qwest has, though I will ask Mr. Linse some questions, is how we bill, accurately bill the different types of traffic. There really is no technical reason that we can't put long distance and local traffic on the same trunk with the very small exception of what's called meet point traffic. Meet point traffic is traffic that goes to a third party in either direction, and Level 3 in other jurisdictions with AT&T, BellSouth, et cetera, has agreed to have meet point, separate meet point trunks. These are typically very small, because it's a tiny bit of traffic. I mean you imagine how much traffic is going from say, especially now that most of the CLEC's have been purchased by larger carriers, you imagine a call from Electric Lightwave to, an Electric Lightwave customer to a Level 3 customer, it's a small amount of traffic, Qwest carries it in the middle. And Level 3 agrees to have a separate meet point trunk for those, and they already have them, so these would not be new trunks.

Aside from that, the billing issues, Mr. Greene just responded to Mr. Williamson's question in some length that there are two methodologies that Level 3 will offer to Qwest. The other large RBOC's are

using the PLU-PIU method, which is very simple, and as access rates drop, I think we all should try and simplify the billing process as well and do this simply, because the dollar amounts are going down.

JUDGE RENDAHL: Mr. Wilson, if we can try to avoid argument and focus on the technical aspects, that would be great.

MR. WILSON: Fine.

So I see, as an engineer, I see no reason not to use the PLU-PIU method of billing. If Mr. Linse can describe their issues, that would be great.

Second issue that's related is the sharing of Quad SS7 links. I submitted some additional diagrams on this for the conference today. We could look at those if the Judge feels that or the Staff feels that's necessary.

JUDGE RENDAHL: Which diagrams are those?

MR. CECIL: Those were E-mailed on the 17th.

JUDGE RENDAHL: Okay, I received --

MR. CECIL: That went out to the entire distribution, it was the ATIS records and --

JUDGE RENDAHL: Use your microphone.

MR. CECIL: Those diagrams were E-mailed to Your Honor and all the parties on the 17th, and it included two pages from the -- two sets of information

from the ATIS billing standards, Alliance for Telecommunications Industry Standards or Solutions, and then a Power Point document entitled Ken Wilson slides.

JUDGE RENDAHL: Okay, I didn't see any quad link diagram in those particular -- why don't we go off the record for a moment.

(Discussion off the record.)

MR. WILSON: Since we did not provide those diagrams, let me just describe the situation. When you share the trunks as I just discussed, there's kind of a secondary issue on sharing the SS7 quad links. These are data links that connect the switches so that the switches can communicate the nature of the calls, what the calls -- what's going on, so this is the brains behind the actual calls. And the SS7 network is a network that both Level 3 and Qwest utilizes to pass information between the switches, and what basically Level 3 is saying, let's use the existing quad links that we already have in place for transmitting the messages both for local calls and for long distance calls. Again, there is no technical reason not to do this, it's being done in the three other big regions, and so we would like to hear Qwest's problems with doing this. It makes sense again from an engineering standpoint in terms of efficiency. It takes half as

many ports on the SS7 signaling transfer points and half the trunks. So that's the second issue that I think we should address today.

The third issue is the issue of the point of interface and who pays or technically what do we do at that interface and whose responsibility is it. This again was discussed at great length here in Washington years ago. The issues today are slightly different but not profoundly different. One interesting difference that I see today is that today we're talking about who pays for the transport within the Qwest network, which is very interesting because I remember eight, nine years ago we were talking about who pays for the transport in the receiving party's network. We seem to have gotten past that for some reason, and now we're talking about who pays for the originating party's part of the call.

Technically there's no issue here. Essentially we all know what the point of interface is, it's a place where local carriers pass calls. One correction I would like to make I believe to Mr. Linse's testimony here in this state, or maybe it was Mr. Brotherson's or both, a point of presence or POP is an older term that is used in the access world. A point of interface is not a term that was an access term used by the interconnection carriers. The term point of

interface was created by the Telecommunications Act of 1996. It is a term that relates to local carriers. The term that was used for interexchange carriers was POP or point of presence, and they're two distinct entities in my mind. Though the technology is very similar, they are distinct.

And what we're talking about here is the point of interface between local carriers and who has responsibility on each side of that interface. And all Level 3 is basically saying, we will provide the transport on our side of the POI, we will pay for it, it's ours, that's fine, Qwest, you pay for it on your side, and what you do on your side of the network is pretty much your business, what we do on our side is our business. So if we want to transport traffic for a customer at some rate up to the POI on our side, let us do that. And if it's dialed as a local call, it should be a local call. And if they want to do the same, that's what they should do. So we're not technically talking about changing the way routing is done, we're not talking about changing the way rating is done, we're talking about dialed numbers that are local to be treated as local calls, and numbers that are 1-plus we agree should be long distance calls, very simple. I would also like to hear what Qwest's technical issues

are with this arrangement from Mr. Brotherson and Mr. Linse.

One other issue related to the point of interface that I would like to discuss briefly is maybe a simpler way to show the second diagram that Mr. Greene showed to you. Let me just take two minutes to draw a very fast stick drawing, if I might, that I think would clarify the issue of the difference between what Qwest is doing with QCC and what Level 3 is doing with the point of interface, if I might.

JUDGE RENDAHL: Okay.

MR. WILSON: I think I could draw it very quickly and then talk about it from here so we don't need a traveling microphone.

JUDGE RENDAHL: Okay, well, let's be off the record for a moment while you draw.

(Discussion off the record.)

(Luncheon recess taken at 12:00 p.m.)

A F T E R N O O N S E S S I O N

(1:30 p.m.)

JUDGE RENDAHL: Back on the record after our lunch break, and now we're going to hear more from Mr. Wilson who has maybe drawn a diagram or has more to say.

MR. GREENE: Your Honor, before we jump to that, we were able to investigate MG-3 during the break, and as it turns out the drawing is slightly inaccurate. The link going from Seattle down to the Yakima LCA should be colored blue. There's actually a Level 3 facility that goes down there. There should also be a Level 3 MUX that's located at the Yakima WE tandem site and a link between.

JUDGE RENDAHL: So the MUX is at the Yakima tandem site?

MR. GREENE: Correct.

And then the link between the Pasco switch should be colored red or purple depending on how it printed out, and that should connect to the Level 3 MUX. We can -- I guess my lawyer has instructed me to file an errata to correct that.

JUDGE RENDAHL: If you file a corrected exhibit or a revised exhibit, and our procedural rules require that you actually indicate it's revised and the date so we can keep track of it. Because they get filed with the records center, when we put together the final set of exhibits, it helps to know.

MR. CECIL: And would that be revised MDG-3?

JUDGE RENDAHL: MDG-3.

So you're saying that the link between?

MR. GREENE: The link between Seattle and Yakima, which is --

JUDGE RENDAHL: It is blue.

MR. GREENE: It should be blue, designated as Level 3 network.

JUDGE RENDAHL: And instead of a Qwest MUX there's a Level 3 MUX?

MR. GREENE: Correct, that should be added to the right of the Qwest MUX.

JUDGE RENDAHL: Okay.

MR. GREENE: And then the link out to Pasco should be colored purple, and that should connect into the Level 3 MUX via the Qwest MUX.

MR. WILLIAMSON: The Qwest MUX stays there, and it connects to the Level 3?

MR. GREENE: Yes, so it will look like the bottom half of the Spokane drawing.

JUDGE RENDAHL: And then there's a link from the Level 3 MUX to the Qwest end office in Pasco that's in blue?

MR. GREENE: Yes. No, I'm sorry, let me be clear. The Pasco location would have a purple line to it. It is a LIS trunk, it's not a trunk that Level 3 manages.

JUDGE RENDAHL: Okay, so there's a purple

line between the Qwest tandem switch in Yakima and the Pasco end office switch?

MR. GREENE: The only correction on the left-hand side, instead of going from the Qwest tandem switch it should go through the MUX and into the Level 3 MUX. It doesn't actually go through the tandem switch.

JUDGE RENDAHL: So the red line goes from the Qwest end office switch in Pasco to the Level 3 MUX through the Qwest MUX to the tandem switch?

MR. GREENE: Yes, if you flip the order of that statement and put the Qwest MUX first.

JUDGE RENDAHL: So it goes from the Qwest end office switch in Pasco to the Qwest MUX?

MR. GREENE: Yes, then to a Level 3 MUX, there is a POI at that point, and then on a blue line back to Seattle.

JUDGE RENDAHL: But does it then go from -- oh, I see, so there's no connection between the Qwest tandem switch and the Level 3 MUX?

MR. GREENE: There is, but for the purposes of this drawing in demonstrating the Pasco area, it is not germane to the illustration of that.

JUDGE RENDAHL: Okay, well, then we'll wait for the updated version too, but thank you for that clarification.

Okay, Mr. Wilson.

MR. WILSON: Thank you, Your Honor. I wanted to connect up the diagram that Mr. Greene explained that I'm showing right now, which is MG-4, and this diagram shows the differences in connectivity between what Qwest and QCC do for ISP and what Level 3 does for ISP, and I wanted to show this with a little simpler high level diagram that I had drawn, that I have now drawn on the board.

This diagram shows the Level 3 configuration on the top starting with a dial-up customer on the left that would go to a Qwest switch. The Qwest switch is connected to the Level 3 switch through the point of interface over a LIS trunk, and then Level 3 takes that call on to an ISP. So that's the top configuration.

The bottom configuration shows a similar dial-up customer that is connected to the Qwest switch, but this customer is getting service through QCC, the subsidiary of Qwest. And I have heard Qwest say before that QCC is a customer, and they use a PRI trunk instead of a LIS trunk.

And the technical issues here are several fold. In the top diagram, the LIS trunk uses the full SS7 signaling. This is what carrier-to-carrier systems use or carrier-to-carrier connections use, the full SS7

protocol, which is appropriate. In the bottom configuration Qwest and QCC are using ISDN PRI trunks, which use a subset of SS7 for signaling. So it's very similar in the signaling. As far as trunking capacity, it's identical, both are providing capacity. The signaling is slightly different. As you can see, the connection between Qwest and QCC is simpler in a way, probably more appropriate for a PRI trunk. And the configuration with Level 3, since it's carrier-to-carrier is more appropriately a full trunk with SS7. So that just kind of shows you the technical differences in the two configurations, and that's what I wanted to show with this diagram.

And I think that's all I have to bring up these issues. I did say I have questions for the Qwest witnesses, because I think there may be some misunderstandings and confusions about some of the technology and the way we want to connect.

JUDGE RENDAHL: Okay, I appreciate that. I understood when you were asking questions, when we set up this conference I understood it to be a little different than the workshop style we did in the Section 271 cases where there was a fair amount of give and take. I would first like to get into the technical issues, and then if there is time and the parties want

to do it this afternoon, I'm happy to do more of the give and take and negotiation, but that is not what I understood this conference to really be. It's more just clarifying the technical aspects. So with your okay on that, I'm going to go to Mr. Williamson and see if he has any technical questions for you.

MR. WILLIAMSON: Before I move that and make a print of it so we can have it for the record, and you might not be the appropriate one, maybe Qwest should be the one to do it, but as I'm looking at it, you're showing one end office, one Qwest end office at the bottom with a primary rate to a QCC office where their modem service is. Is it your understanding that at each Qwest central office in each rate center local calling area for Qwest that they would have a primary rate from each rate center going to a QCC office where you have one office serving a number of rate centers?

MR. WILSON: I think that's better for Qwest to answer probably. In Oregon I think they had about the same aggregation as Level 3, but I don't know in Washington.

MR. WILLIAMSON: Okay. And then my second question again may be for you or for Qwest to follow up, but I would like to get clarification on the SS7 information that you were talking about and the quad

links, and it would be helpful since we don't have a diagram to have someone diagram a hierarchical SS7 network and then how you're talking about using it maybe differently than it has in the past.

MR. WILSON: I think I can answer that easily. We're not talking about any different kind of architecture. It's merely a question of whether or not Qwest -- whether or not Level 3 is required to have duplicative sets of quad links. And these are generally 56 kilobyte data links, so the question is should we have two sets of quad links or one set between the two networks. The two networks are not hierarchical at the SS7 level, they're heteroarchical, so they connect as peers.

JUDGE RENDAHL: Did you say --

MR. WILSON: Heteroarchical.

JUDGE RENDAHL: Heteroarchical?

MR. WILSON: Yes.

MR. WILLIAMSON: Heteroarchical.

JUDGE RENDAHL: Heteroarchical.

MR. WILSON: Heteroarchical, it's a reasonable word. They're not hierarchical, so they connect as peers, and the quad links are merely data links that transmit the data between the switches.

MR. WILLIAMSON: Okay, well, maybe Qwest when

they do their clarification could clarify that for me.

With that, I'm done.

JUDGE RENDAHL: Okay.

MR. WILLIAMSON: I'm going to go make a copy.

JUDGE RENDAHL: Okay, you can go make a copy of that, what's been put on the printing white board.

MR. BROTHERSON: Can it stay up because I have --

MR. WILLIAMSON: Oh, go ahead.

MR. BROTHERSON: -- some follow up.

MR. WILLIAMSON: I'll wait until you're done then.

JUDGE RENDAHL: I want to do some indicating of what exhibit this would be though, and, Mr. Wilson, we received the ATIS document that we have talked about from Mr. Cecil and also the Power Point subset, are we intending to include these at all as exhibits, do you want the ATIS document? It does talk about record indicator 29.

MR. CECIL: Right, yeah, the ATIS document should be an exhibit to Mr. Greene's testimony, or actually it's just an exhibit, I'm sorry, it's not really an exhibit to the testimony but it's just an exhibit in the hearing, so I'm just trying to think how do you want them marked? I mean do you just want them

marked sequentially, or do you want them associated with a witness?

JUDGE RENDAHL: I would like them associated with a witness.

MR. CECIL: Okay, so the ATIS document will be associated with Mr. Greene, so I guess maybe the easiest way is to make that --

JUDGE RENDAHL: MG-8.

MR. CECIL: Okay.

JUDGE RENDAHL: And I'm just including it as one, because the one page copy that you sent is included within the multipage.

MR. CECIL: Right. Well, it's a 1,500 page document, so there's an introductory section and then just the relevant pages. They were sent as two separate electronic documents because it was different slices of the same document.

JUDGE RENDAHL: Let's be off the record for a moment.

(Discussion off the record.)

JUDGE RENDAHL: While we were off the record, we identified as an additional exhibit to Mr. Greene's testimony MG-8, which is an excerpt of ATIS-0406000-2200, and two exhibits to Mr. Wilson's testimony, KLW-3 described as Power Point slides re

combining traffic on trunk groups for efficiency, and then KLW-4 is the white board drawing, and that's titled LIS trunking versus PRI trunking.

Okay, so I don't believe I had any particular questions at this point, let me just briefly look.

Mr. Wilson, do you have your testimony with you?

MR. WILSON: Yes.

JUDGE RENDAHL: Okay, so what's been marked as KLW-1T, if you can look at page 13, please, line 7, this is just a very brief clarification.

MR. WILSON: One moment.

JUDGE RENDAHL: So it's page 13, do you have it?

MR. WILSON: I thought I did, but this copy does not have it.

JUDGE RENDAHL: Okay, Mr. Williamson is going to get you a copy.

MR. WILSON: Page 7?

JUDGE RENDAHL: Page 13, line 7, and at the end of the line you have a sentence that starts, on Level 3/701, Greene/12, is this referring to Exhibit MG-3? I'm not sure what that number designation is.

MR. WILSON: Yes, that is referring to Mr. Greene's Exhibit 2 I believe.

JUDGE RENDAHL: So that's the map, MG-2, or would it be the diagram, MG-3?

MR. WILSON: No, it's the diagram, you're right, MG-3.

JUDGE RENDAHL: So it's MG-3?

MR. WILSON: Yes.

JUDGE RENDAHL: Okay.

On page 19.

MR. WILSON: Yes.

JUDGE RENDAHL: That sentence starting on line 3, it refers to reprogramming or programming the routing table, and we can defer this to the hearing if you want to, but it's just a question of what is the cost of programming the table?

MR. WILSON: It would be the same as programming it to a different trunk, so the cost difference would be zero. You're merely -- you have to point any call to the right trunk so that it can be connected, and so whether you point long distance calls to Feature Group D trunk or to an existing LIS trunk would be the same software, the same programming.

JUDGE RENDAHL: So it would have to be programmed no matter which trunk it would be put on?

MR. WILSON: Yes.

JUDGE RENDAHL: Okay. What is a quad link?

MR. WILSON: It's a data link that connects the signaling transfer point of one company's network to the signal transfer network of another company's network, so it's a data link.

JUDGE RENDAHL: Why is it a quad link?

MR. WILSON: It's because there are four of them for redundancy. The SS7 network needs to be very redundant and robust in case something happens to one of the links, you don't want the signaling network to go down, so it's duplicated.

MR. WILLIAMSON: When Your Honor is done we probably should roll that and let him draw that on the board so we can see it.

JUDGE RENDAHL: Well, we can go back to that question, I think those were all the questions I had for you, Mr. Wilson, and I know Mr. Brotherson had questions about what we have marked as KLW-4, so before we roll this, I'm going to turn things over to Qwest here.

MR. BROTHERSON: I just had I think just one question of Mr. Wilson. There's no local calling area depicted there, is that intended to be a depiction within a local calling area such as Yakima, or let me, better example I guess would be Seattle with a Level 3 switch and a Qwest switch?

MR. WILSON: I meant to -- what I was

intending to do was to show the parallel nature, the similarity and dissimilarity of the two configurations. If one of them is within a local calling area, if the top part of the diagram is in one local calling area and the bottom is in the same local calling area, then I'm fine. If the top one goes between two calling areas and the bottom one does as well, then that's also an accurate depiction, so it doesn't matter.

MR. BROTHERSON: But if, pointing to the bottom one for a second, the QCC were outside the local calling area, would they not also have -- would you not also have to depict a private line in that diagram in addition to the PRI?

MR. WILSON: Based on Qwest's products or --

MR. BROTHERSON: Yes.

MR. WILSON: Well, from an engineering point of view, the private line would really be an extension of the PRI, so to me as an engineer it wouldn't matter. I mean you may call the two pieces different products, but it's really still an ISDN PRI technology.

MR. BROTHERSON: All right.

JUDGE RENDAHL: Okay, Mr. Brotherson, did you have any other questions for Mr. Wilson?

MR. BROTHERSON: No, I have nothing.

JUDGE RENDAHL: And Mr. Linse?

MR. LINSE: No.

JUDGE RENDAHL: Mr. Easton?

MR. EASTON: No.

JUDGE RENDAHL: Okay, well, thank you very much, Mr. Wilson.

Before we roll this, if you can or somebody can write LIS trunking versus PRI trunking on the bottom there, and then, Mr. Williamson, you had a suggestion of diagramming the quad link?

MR. WILLIAMSON: Yes.

JUDGE RENDAHL: I'm wondering if we look at MG-3, there are four lines between the Level 3 STP and the Qwest STP, is that the diagram, or are you thinking of something more elaborate?

MR. WILLIAMSON: A little more elaborate, but if that's sufficient for your understanding, then that's okay.

MR. WILSON: Actually, I might suggest a diagram that would take 60 seconds that would be more representative.

MR. WILLIAMSON: Yes.

JUDGE RENDAHL: Okay, well, then let's print KLW-4, and let's be off the record while we do this.

(Discussion off the record.)

JUDGE RENDAHL: Mr. Wilson, can you take us

through your diagram of KLW-5 which you have put up on the white board.

MR. WILSON: Yes, I have represented on the left-hand side Level 3's signaling network and on the right-hand side Qwest's signaling network. Level 3 would have a mated pair of signaling transfer points, STP's, as would Qwest, so both companies have mated pairs for redundancy of the signaling transfer point. Between those pairs there are four links to connect up the two signaling networks, and that's why we call them quad links.

JUDGE RENDAHL: And what are the boxes to the very left of the STP's and the very right?

MR. WILSON: Those would be the switches.

JUDGE RENDAHL: Ah.

MR. WILSON: That the STP's are connected to, so each switch is connected to the STP's of the company that is on the -- either Level 3 or Qwest.

JUDGE RENDAHL: Hence SW1, if I was really paying attention, I would get it.

MR. GREENE: And, Your Honor, this is at the top of MG-3.

JUDGE RENDAHL: Can you use your microphone, please.

MR. GREENE: I thought I had it on, I

apologize.

JUDGE RENDAHL: You're just not close enough.

MR. GREENE: I guess not.

I was saying that this diagram that Mr. Wilson has sort of excerpted here is at the top of MDG-3, you will notice I think it's the very topmost of the diagram are two signal transfer points with four links between them, and then it designates the SS7 communications that ultimately go back out to the switches on either side.

JUDGE RENDAHL: All right, thank you.

Mr. Williamson.

MR. WILLIAMSON: Not to be too picky, but wouldn't it be more accurate that the top left STP would have one link to the top rightmost STP and one link to the bottom right STP?

MR. WILSON: Yes.

MR. WILLIAMSON: And, of course, the other way. And the switches would be the same way at their end where there would be one link to each STP?

MR. WILSON: Yes, as I was drawing them, I realized that that was probably a little more accurate. The point is that four lines --

JUDGE RENDAHL: Can we diagram that in a different color instead of erasing what we have.

MR. WILLIAMSON: Well, actually, he needs to correct it.

JUDGE RENDAHL: All right, then we'll correct it.

MR. WILSON: The links do cross so that you have one link to each STP.

MR. WILLIAMSON: And then one more while he's drawing, it's been a long time since I have done SS7, but aren't IXC's connected to separate STP's? For Qwest to connect to an IXC for long distance calling, they would go from their network to the other network and then would use another pair of STP's? And as a follow up before you answer that, and this is where I'm a little confused, if you were making an IXC type call to Qwest, would you have to go to their different STP's than they use for local calling? Do they have a separate pair of STP's for their long distance network?

MR. WILSON: You know, for some reason this issue did not come up when I was representing AT&T. I do not believe that AT&T set up a separate quad link, set of quad links. Especially in I know in Washington Qwest agreed to allow AT&T to use its existing Feature Group D trunks for local calls, and I assume that the quad links that were already in use were used for all those calls. So it didn't come up as an issue, and I

would have to assume that no second set was built. In fact, I'm not even sure how that would work for the AT&T configuration. And the issue here is simply, as you said, should Level 3 be required to put up an additional set of four links for long distance calls since they have the four links for the local calls which can be used for the messages.

MR. WILLIAMSON: Maybe Qwest could clarify then if there's somebody that can do that when we go through it. Are you saying another quad to another set of STP's or four more between the same set of STP's?

MR. WILSON: It would be the same set of STP's.

MR. WILLIAMSON: Maybe Qwest can clarify that when we get to it.

JUDGE RENDAHL: Would you like to do that now, Mr. Linse?

MR. LINSE: Yeah, I think I can maybe clarify some of that. I guess the only way -- the best way to start is from the beginning, which is I think the Qwest contract language, which the parties have agreed to language that allows a single set of quad links, and in fact we don't require that configuration today.

JUDGE RENDAHL: A single set or a double set?

MR. LINSE: A single set, we don't require

more than one set.

JUDGE RENDAHL: Thank you.

MR. LINSE: And in my testimony I think in my supplemental, or no, in my direct testimony, I forget which state I'm in, I apologize.

MR. SMITH: It's the new direct.

MR. LINSE: Yeah, the new direct has the language, I quote the language in there. I can't remember the section number, but it basically goes through the different ways that Level 3 can obtain the signal. They can either come to Qwest, go to a third party, and there's no requirement that goes beyond a single set of quad links.

JUDGE RENDAHL: Okay.

MR. LINSE: And this is kind of -- I have struggled with this since this came up subsequent to the petition filing, why this is even an issue.

MR. WILSON: But maybe just one question?

JUDGE RENDAHL: Well, let me first go to Mr. Williamson and then briefly. I don't want to argue the point here, so if we're going to argue the point, let's keep that to the hearing. But if there is a technical question, we'll go to it.

Mr. Williamson.

MR. WILLIAMSON: Well, I'm like you then,

surprised that it's an issue here. If Qwest is not requiring Level 3 to add another set of quad links, then why is it an issue, and if it was an issue, why it would be required between the same four STP's? Mr. Linse said that that's not a requirement, so unless you can give us a technical clarification of your understanding.

MR. WILSON: I believe the issue is the price, and my question for Mr. Linse would be, if they allow Level 3 to do that, would Qwest be charging Level 3 as if all the traffic was long distance? Because they charge an access rate for all of the messages when it's an IXC, and it's, you know, it's an access type rate, and I think that's the issue.

JUDGE RENDAHL: Okay, well, I guess I would suggest since this seems to be an issue that's still in dispute between the parties that if you can clarify it today after we're done, after the technical discussion, or before we get to hearing, then it sounds like you all need to have some further discussion on this issue so you really understand what your dispute is about. I don't think that here today I think we all understand the technicalities, it's just a question of what the parties want to do.

So are there any other questions from Qwest or Mr. Williamson for Mr. Wilson?

Okay, I think why don't we go off the record and get organized for the Qwest witnesses, and we'll be right back on. Oh, and let's print KLW-5. Let's be off the record.

(Discussion off the record.)

JUDGE RENDAHL: We have clarified the exhibits for Mr. Brotherson, and just for clarification we have several pages that were distributed that need to be somewhat corrected. The document that was distributed today that's titled Exhibit LBB-4 VNXX Routing, should actually be LBB-2. The exhibit titled Examples of VoIP Calls labeled Exhibit LBB-2 should be LBB-4. The exhibit titled Proper Routing of Terminating VoIP Calls should be labeled Exhibit LBB-5, it was labeled LBB-3. And then there's a diagram labeled VNXX Versus IXC Versus FX, that is labeled or marked LBB-6. There's a document, a diagram titled LIS Versus FGD Interconnection labeled LBB-7, and then there was a chart titled Comparison Level 3 VNNX Service/Qwest FX Service/IXC Service for Calls Outside the Local Calling Area, and that is marked as Exhibit LBB-8.

MS. SMITH: Correct.

JUDGE RENDAHL: Okay, so now we're going to start with Mr. Brotherson, please go ahead.

MR. BROTHERSON: Thank you. We're here on a

technical conference, we're not going to have a lot -- I'm not in my areas going to have a lot of differences on the technical issues. We do have some, and I want to address those, but I think when the prehearing notice came out for the conference, you know, we were to address technical and regulatory issues. And by and large Qwest and Level 3 will agree on how a call routes but will disagree on what the regulatory treatment of the call should be given the technical way that it routes. And it's hard to separate the two, because as we will see as we get into discussions of for example a LIS trunk versus a PRI trunk, and I will get into this later in my exhibits, we could also draw a Feature Group D trunk, which is an access trunk that a carrier buys, it will look very similar to the LIS trunk and the PRI trunk that Mr. Wilson drew on his exhibit, LIS trunking versus PRI trunking. And from a technical point of view, all three will look very similar in terms of technical characteristics, and yet all three have very different regulatory treatment by the Washington Commission under the rules and regulations, and so you can't separate the two.

My piece of the discussion will be on two major pieces, one is on VNXX, and the other is VoIP, two types of traffic. Mr. Easton is going to talk I think

later about primarily the billing issues, and Mr. Linse about combining traffic on trunk groups, and there's some overlap there as well, but those two will address that, and I want to focus on VNXX and VoIP.

And if we could turn to my Exhibit LBB-2 as a visual diagram, I want to talk a little bit about just what VNXX is. It is a -- the V stands for virtual, NNX is the numbering code system that the telecommunications industry uses, local telephone companies assign to indicate routing information, and the V indicates a virtual NNX code or routing code that appears to be in one local calling area but in fact is not. If you can look to the picture in LBB-2, I have drawn an example of two local calling areas, the Seattle local calling area and the Olympia local calling area. If the, on the right-hand side, if Qwest end user A picks up their telephone and dials a telephone number for the Olympia local calling, NNX code associated with the Olympia local calling area, the first thing that the Qwest switch will do is they will say, well, this appears to be a local call because it is dialing someone else with an Olympia telephone number. The second thing it will say is, but it's not a Qwest customer, we have to hand this off to the Level 3 switch because it is a Level 3 customer, and we would therefore put the traffic on a

LIS trunk and deliver it to the Level 3 switch for delivery to their customer. What makes this a virtual NNX code is that in fact the call does not come back to any customer in Olympia but is rather handed off to an ISP located in Seattle. So you've got a call originating with an end user in Seattle, terminating to a Level 3 end user in Seattle, but they both have Olympia telephone numbers. And if -- and by looking just at the telephone number, it would appear to be that the call originated and terminated in Olympia, thus the V indicator for a virtual NNX code.

JUDGE RENDAHL: Do you mean NNX or NXX?

MR. BROTHERSON: NXX code, I apologize.

JUDGE RENDAHL: Okay, just to clarify.

MR. BROTHERSON: The dispute which, and I don't want to get into the argument but I think we need to tee up the issue, is going to be over whether or not the call is, in fact, a local call, because various consequences, obligations, however you want to characterize it, flow from the definitions or the categorization of the calls. We have talked about delivery of traffic to Level 3. Qwest's never disputed an obligation to deliver local calls to Level 3. We obviously are going to have a dispute over whether or not a VNXX numbering system is going to be a local call

which thereby triggers the obligation to deliver it for free.

We have in our contracts obligations arising for call termination charges to terminate traffic, local call termination and/or ISP termination. The call termination charges hinge on whether or not the call is going to be a local call or not a local call, and therefore the regulatory treatment is driven in fact by the classification of the traffic, and all of this loops back around to the language that is in dispute by the parties.

If we could turn for a minute to LBB-6, I have depicted three types of calls where I show a telephone originating a call on the left-hand side and the call terminating to a green box on the right-hand side. On the top, there's three depictions there, on the top row it's called a Level 3 VNXX service. I walked through the earlier diagram for you, the LBB-2, but let's walk through it again here. A Qwest end user picks up the telephone to dial the number. It goes through the Qwest switch, is handed off to the Level 3 switch, who hands off to their Level 3 ISP customer. And you will -- I forgot to point out you've got local calling area A in the upper left-hand corner and local calling area B on the right to show that the calls are

traveling from one local calling area to the other. In a VNXX call, Qwest receives no originating compensation. In Washington, Qwest receives no compensation for transporting the call to local calling area B, which is the rough issue of who pays to transport the traffic. So Qwest receives no compensation for the transport. And then once it reaches local calling area B, Level 3 charges Qwest a local termination charge.

The next scenario I show is a traditional long distance call, which is in the middle row. The end user customer picks up their telephone to make a long distance call. In that instance Qwest would receive, and it's sent to the Qwest switch, in that instance Qwest would receive an originating access charge. The call is then delivered not to a Level 3 but to an IXC. The IXC transports the traffic to local calling area B where it is handed off to a local telephone company in local calling area B, who then sends the call out over a loop to the called party, and the IXC would pay a terminating charge, terminating access charge.

The third example is an FX or foreign exchange service.

JUDGE RENDAHL: Before you go there, is the FGD on the traditional long distance service the Feature Group D link?

MR. BROTHERSON: Yes, I apologize, a Feature Group D is a trunk that connects an interexchange carrier or IXC to a local exchange carrier.

JUDGE RENDAHL: Thank you.

MR. BROTHERSON: And a LIS trunk connects a local exchange carrier to another local exchange carrier.

My third example is foreign exchange service. In this example we again have an end user. The end user pays for local exchange service in local calling area A, so Qwest would be receiving originating revenues in the form of local exchange service. Then there is private line to the end user customer in local calling area B, so the end user customer pays for the transport. And then the end user customer, there is no reciprocal compensation charged by the end user customer in local calling area B. I forgot to indicate in the middle row the traditional long distance service, there is also transport charged to the IXC if they request Qwest to provide any transport services to the IXC, they pay for those transport services.

So in the bottom example, the Qwest customer pays the private line transport, in the middle example the IXC pays for transport, and in the top example, the Level 3 VNXX service, Level 3 does not pay any transport

for delivery of the VNXX dial call to the Level 3 switch.

If we could turn, flip to LBB-7, Mr. Wilson had earlier talked about how or had drawn examples of a trunk connecting from the Qwest switch going to various locations. In his example, he had a trunk going to the Level 3 switch, and he had a trunk going to the, a PRI trunk going to QCC and talked about the similarities between the LIS trunk at the top of his example and the PRI going to the end user.

JUDGE RENDAHL: And, I'm sorry, you're referring to KLW-4?

MR. BROTHERSON: Thank you, I didn't have the number, I kept referring to the name, but it's KLW.

JUDGE RENDAHL: And that's the diagram on the white board?

MR. BROTHERSON: Yes, that's the LIS trunking versus PRI trunking.

My diagram in turn is LIS trunking versus Feature Group D, and mine is labeled interconnection, but the analogy is to LIS trunking versus Feature Group D trunking, and that's designated LBB-7. And the point in terms of technical similarities is that just like the PRI example that Mr. Wilson put on the board, the Feature Group D example is also a trunk going from the

Qwest switch and connecting in this case to an IXC POP or switch. However, the treatment of the trunking that terminates on a PRI that terminates to an end user, QCC in Mr. Wilson's example KLW, the regulatory treatment of traffic that goes from the Qwest switch over a Feature Group D trunk to an IXC and the regulatory treatment of traffic that goes over a LIS trunk from a Qwest switch to a CLEC as depicted in LBB-7, all three have different regulatory treatment, and all three are impacted by the classification of calls and which category the calls fall -- which of those three categories the calls fall into, so I wanted to lay out the comparisons of the three.

LBB-8 was a narrative. It in essence completes the comparison that I walked you through graphicly into three columns. The three columns would represent Level 3 VNXX service, Qwest FX service, and IXC toll service, which you can see the IXC service is depicted on LBB-7 as the Feature Group D, the VNXX service I depicted, it's a LIS trunk but it's also depicted in LBB-6 on the top line, and then the Qwest FX service which is also on LBB-6 on the bottom of the three examples. And this chart simply walks you through verbally what I have tried to depict through the diagrams as well, which is who pays for origination, who

pays for the transport, who pays for termination, if any, and what is the regulatory treatment of the three types of calls. And I think when we get all done, we'll find that that zeroes in on the bulk of the issues in the case.

I think if we could flip to, there's a couple of things I wanted to touch on and if we could flip to Mr. Greene's chart of his network, which I'm looking for MDG --

JUDGE RENDAHL: Is this the one we worked on first this morning?

MR. BROTHERSON: Yes.

JUDGE RENDAHL: MDG-3.

MR. BROTHERSON: If you could flip that over for me, Mack, I'd appreciate it.

MR. GREENE: MDG-2.

MR. BROTHERSON: I'm sorry, MDG-2, which is the very complicated one with the fine print for my bifocals.

JUDGE RENDAHL: This one right here?

MR. BROTHERSON: Yes, Your Honor.

JUDGE RENDAHL: That's MGD-3.

MR. BROTHERSON: MGD-3?

JUDGE RENDAHL: MDG-3.

MR. GREENE: It rolls right off the tongue.

MR. BROTHERSON: MDG-3, which was a --

JUDGE RENDAHL: Level 3-Qwest Interconnection Architecture.

MR. BROTHERSON: Level 3-Qwest Interconnection Architecture. The first point I wanted to make then, there's been a lot of technical discussion of RADIUS servers, and VoIP provider soft switches, AOL servers, proxy servers, all of which are on the right-hand side of the exhibit and take place on the Internet and are not involved with interconnection, are not involved with the arbitration directly. They are the interconnection agreement deals with what happens once the traffic leaves the Internet to interconnect with a local, traditional local telephone company, that is to say what happens when traffic on the Internet wants to be sent to the PSTN.

And if you will notice on Mr. Greene's exhibit at the Level 3 media gateway, there is a short red line drawn where it talks about IT to IP to TDM, and that is the point where the traffic is handed off by Level 3 to the PSTN network, it is the point where Level 3 requires an interconnection agreement to interconnect to what's then on the left-hand side and is the Qwest network. And I think that it's important to keep that in mind. We can have on the right-hand side, you can

have a VoIP call where a caller is on broadband, cable modem, or DSL. They can pick up their VoIP phone, they can call another person who is on broadband, and that entire conversation can take place on the Internet in IP protocol between two broadband customers and will not require any interconnection with any local telephone company, there's no technical need for two broadband customers to pass through the PSTN for any reason.

And so it's only when VoIP calls which are terminating or ISP dialed calls which are originating calls want to get out on the Internet that there has to be a transition of that traffic from the PSTN or the plain old fashioned switch telephone network onto the Internet. But the interconnection agreement is going to deal with the exchange of traffic that takes place on that red line and is not going to be as concerned with the traffic on the right-hand side that takes place on the Internet.

I said I would talk about VNXX and VoIP, so let me before I get ahead of myself move over to VoIP for a second or voice over IP. My lawyer is always correcting my language, I tend to say IP protocol but that's the P in IP. I think generally there is a consensus of what IP is, it's the packets that travel throughout the Internet through routers within a cloud

to other routers, and if you have a broadband connection you can have a VoIP eventually to an IP phone and you can have a voice conversation.

If you want the conversation to terminate to a POTS, P-O-T-S, plain old telephone service end user, and I talk about if you wanted someone's kitchen phone to ring, you've got to convert those IP packets into the language of the plain old telephone network. And if you will look at Mr. Greene's architecture exhibit where he talks about the IP to TDM conversion taking place at that media gateway, that's indeed what happens, it's converted from IP packets into language, into the signals, the electromagnetic signals that Mr. Greene discussed that will pass then through Qwest's switches and pass over Qwest loops and out to Qwest telephones.

VoIP is related to VNXX and has come into this arbitration because up until the time of -- up until the advent of VoIP, the issue was primarily about dial-up ISP traffic, and it was all one-way traffic where Qwest end users were dialing up Earthlink or dialing up AOL, and it was one-way traffic flowing to Level 3, and there was a lot of issues around who has the obligation to transport the traffic, whether or not the traffic is entitled to terminating compensation, if so, at what rate. With the advent of VoIP, which is, as

Mr. Greene pointed out, an Internet driven product, with the advent of VoIP, we are beginning to see traffic now flowing back the other direction from Level 3 to Qwest. Because if you're Vonage, if you're Skype, if you're one of the companies that are offering this product, you obviously want your subscribers to be able to call not just other people on broadband but everybody on the telephone network, and therefore they need a company like Level 3 to interconnect and deliver that traffic to Qwest so that people's phones on the kitchen wall will ring. And so VoIP has now entered the debate in addition to VNXX, because Level 3 delivers traffic to Qwest for termination, VoIP calls to Qwest for termination, and again we're going to have -- we're going to have issues with Level 3 that are the mirror image of VNXX. As you can see from the diagram, Level 3's media gateway sits in Seattle, and the question is going to rise, if a call is handed off to Qwest in Seattle for termination, a VoIP call, does that get you termination LATA wide, or does it get you termination within the local calling area at which you hand off the call. And if it is LATA wide, is it LATA wide as a local call or is it LATA wide as something other than a local call.

If we can turn now to LBB-4, I give an

example of VoIP calls, and luckily everyone has a color copy, the concern as we went through Mr. Greene's discussions of reds and purples and whatever that my color maps as well will not reflect perhaps the distinctions the way they should in black and white. But I show in green and with the very small dotted lines a depiction of a valid VoIP call. We have on the right-hand side in Olympia end user A. End user A is connected by broadband to the Internet, so Qwest does not see that call. It could be on a cable modem, it could technically be on a DSL line as well, but those lines, we all remember line splitting and line sharing hearings, those lines do not go through the Qwest switch, the traffic is split off and goes directly to the Internet. So end user A on their broadband connects directly to the Internet, and the Internet provider delivers the call to their VoIP provider, this could be a Vonage or a Skype or whoever. A VoIP provider is the entity that buys local service as an end user and thus is an entity that, if you will, seeks to terminate its call to someone else.

So in this example the VoIP provider depicted by the VoIP POP seeks to terminate a call to end user C. And in our diagram, the end user A in Olympia places a call over their broadband, it travels around on the

Internet, is delivered to the VoIP provider who has purchased local service in Seattle. Now in my diagram I have the VoIP provider purchasing local service from Level 3. They could, of course, have purchased local service from Qwest in the alternative. But here they have purchased their local service from Level 3, and Level 3 would look at that call, say this goes to a Qwest customer, pass the call over a LIS trunk to the Qwest switch, and the Qwest switch would send the call out to end user C, their telephone would ring. And it would appear that a Level 3 end user in Seattle, the VoIP POP, completed a call to the Qwest end user C, and the points where the PSTN handles the call are from the VoIP POP to end user C. The traffic flowing in green over the Internet from end user A location and through the green cloud has not yet been converted into TDM and is not yet on the PSTN.

My second call -- oh, excuse me, the other one is a dial-up ISP call, so I don't need to talk about that.

JUDGE RENDAHL: Well, but you're saying that the dial-up ISP call is not a valid VoIP call on this diagram?

MR. BROTHERSON: Well, this -- yes, let me walk through that. It's another point that I want to

make, so let me stick with this exhibit.

Did you have a question?

MR. WILLIAMSON: Oh, I was just going to say it appears to be an IP in the middle type of call --

MR. BROTHERSON: That's exactly --

MR. WILLIAMSON: -- which is not I think in dispute, but go ahead.

MR. BROTHERSON: It's not in dispute.

But the second example is where a call originates not on broadband but originates on the PSTN as a dial-up call on a regular loop, a kitchen phone. You dial up and reach your ISP, it might be AOL, it might be Earthlink. There it connects -- there you try and make a VoIP call which is handed off to a VoIP provider in Seattle, who then terminates the call to end user C. This type of call depicted in the dashed purple lines originates on the PSTN, and it terminates on the PSTN, and the -- it did travel for a distance in IP protocol from the ISP box in Olympia to the VoIP POP located in the Seattle LCA, so it traveled for a distance in IP protocol, but it both originated in PSTN protocol passing through a Qwest switch and it terminated in PSTN protocol terminating through a Qwest switch and therefore is not a VoIP call. And I point that out only because in Mr. Greene's discussions he

talked about VoIP traffic can either be terminating or originating, and I wanted to walk through the example of where a call that originates on the PSTN is not a proper VoIP call.

My second exhibit dealing with VoIP is LBB-5, again showing routing, and I show in the lower right-hand corner a green telephone, and the green telephone is on a DSL or cable modem, so it's got a direct broadband connection to the Internet, to the cloud. And when the person on the right, the green telephone on the right, who is on a VoIP phone, gets on the Internet, it will travel throughout the Internet, and it will be delivered to a VoIP POP.

Here I have one drawn showing a VoIP provider purchasing service in Seattle from Level 3. If the VoIP provider who is purchasing local service from Level 3 in Seattle is terminating a call to end user A in Seattle, Qwest's reading of the ESP exemption, and this will be an issue in dispute I think by the parties, but would say that they're entitled to terminate, if they're a Seattle local service customer, they're entitled to complete calls to other Seattle local customers, including Qwest's local customers, so the call would go from the VoIP provider in Seattle to end user A.

The next question is going to be, if the VoIP

provider is buying local service in Seattle but the VoIP provider, Vonage as an example, wants to complete the call to a Qwest end user in Olympia, which is depicted as end user B, so following the path of the call we've got the green IP phone down at the bottom of the page, they are connected directly to the Internet, they say we want to talk to someone in Olympia, they dial the Olympia telephone numbers, it is handed off to a VoIP provider purchasing service from Level 3 in Olympia, excuse me, purchasing service from Level 3 in Seattle, and the question becomes, how is it to get to Olympia for the telephone of end user B to ring. Qwest's position is the traffic, just as any other Seattle end user who wishes to reach someone in Olympia, the traffic should be handed off to an IXC for delivery to Olympia, and I believe Level 3's position is that the traffic can terminate LATA wide over LIS trunks. So we're back to what kind of traffic can be on the LIS trunks, we're back to what's the classification of the traffic, and we're back to the issues.

I guess I have tried to depict the calls geographically, or I mean pictorially. I think you're going to find that we would agree that the trunks of an IXC or a PRI or a LIS have many technical similarities, but the regulatory treatment becomes very different

depending upon how you classify the calls, and that was the point I wanted to make.

Oh, I did want to make one other point just because we talked about it at lunch, and that is that, you know, the examples of say LBB-5 of how do you get a call to Olympia, commissions have dealt with this long before VoIP came along, because we have had issues around toll bridging for example that are -- have many of the same characteristics, and so I just wanted to use that as an example of saying that classification of calls and not just the way they're technically delivered has a lot to do with the ultimate outcome of the arbitration.

That's all I have.

JUDGE RENDAHL: Mr. Williamson.

MR. WILLIAMSON: First on LBB-5, the last one you were on, and I just want to clarify in my mind the gateway, which you don't show as a gateway but I'm assuming is part of the Level 3 switch or at that location, is where the IP is converted to TDM, and it's Qwest's opinion that that is where the origination on the public switched telephone network originates. Now if on this drawing Level 3 didn't use their gateway in Seattle but carried the call further into the Olympia local calling area via IP and had a gateway converted at

Olympia, then you wouldn't have an issue with that being a local call?

MR. BROTHERSON: I'm not sure if I would agree with that. I need I think a little more information.

JUDGE RENDAHL: Can you first clarify the first question, which is that the gateway is right there at the Level 3 switch, is that where the IP TDM conversion occurs?

MR. BROTHERSON: Yes.

JUDGE RENDAHL: Okay.

MR. BROTHERSON: I depicted in a traditional telephone company type of depiction, it would be a media gateway, the VoIP provider would in fact be -- you could draw the picture right next to or inside the picture of the Level 3 switch, if you will, because they're performing a function for the VoIP provider, but I'm trying to distinguish because Level 3 has inserted themselves between the VoIP provider and Qwest as a local exchange carrier or a CLEC, and so I depict them as a Level 3 switch for that reason.

JUDGE RENDAHL: Okay, I just wanted to make sure we clarified that.

And then the second part of your question, Bob?

MR. WILLIAMSON: And I don't want to overcomplicate it, but if the gateway functionality is the origination of the TDM call, then if the gateway was physically in Olympia, then the call would be originated in Olympia, then that would be a local call?

MR. BROTHERSON: Yes.

MR. WILLIAMSON: And it would be proper to put it on an LIS trunk?

MR. BROTHERSON: Yes.

MR. WILLIAMSON: On a LIS trunk?

MR. BROTHERSON: I believe that's correct, yes.

MR. WILLIAMSON: And again just for clarification in my mind, on LBB-2 as well as probably on the others that show the Level 3 switch, the Level 3 switch is a partition switch so that every local calling area that Level 3 serves, the software in the Level 3 switch is partitioned to allow those calls to be routed correctly as if there was a separate switch for each local calling area?

MR. BROTHERSON: They certainly have numbers for all the local calling areas in the switch. I'm not sure how -- what you mean by partitioned, but yes.

MR. WILLIAMSON: Partitioned in the way the translations are set up to be able to handle the calls

as they would if they had a switch separate for each local calling area even though it's physically in one location.

MR. BROTHERSON: Right, the Qwest switch would route the traffic to the Level 3 switch based on the number dialed, and you could have a number of LIS trunks coming in from a number of different local calling areas to that switch, and that switch would treat them all as arriving from the various local calling areas to their switch.

MR. WILLIAMSON: I guess I'm -- I would like somebody, hopefully you or somebody in the room, that could explain the technical difference between a Feature Group D trunk as opposed to a LIS trunk, if there is a difference, and why traffic has to be isolated by the type of call? Is there a physical difference between a Feature Group D, technical difference between Feature Group D and a local trunk?

MR. BROTHERSON: You know, I want to defer to Mr. Linse or -- in terms of, you know, more of the technical. Certainly, if you think of the switch as a computer, certainly the software on a LIS trunk has different capabilities than the software on a Feature Group D trunk. You program them differently, they capture different information, they perform some subtle

distinctions, but they are both trunks plugging into a switch with software that describes the features and capabilities of that trunk.

JUDGE RENDAHL: Mr. Wilson.

MR. WILSON: The Feature Group D trunk is -- selects the outbound carrier based on a CIC code.

JUDGE RENDAHL: K-I-T?

MR. WILSON: C-I-C, carrier identification code, CIC.

JUDGE RENDAHL: Thank you.

MR. WILSON: That's the main difference. The point being that if all the traffic is going to one carrier, you don't need that feature, and that's why Level 3 can ask -- that's why we can point all of the traffic to either a single Feature Group D trunk, both local and toll, or we can point all the traffic to an interconnection trunk, both local and toll, because it's all going to Level 3.

JUDGE RENDAHL: Would you concur with Mr. Brotherson's description of the software difference?

MR. WILSON: There is some software difference, yes. I was trying to describe the main feature, that Qwest charges say AT&T long distance access charges because they provide a switching function to them based on the carrier identification code of AT&T

for instance.

MR. GREENE: Because, one clarifying point on the software difference, and I would use this analogy when I think of, you know, software sold by Lucent or Nortel or other folks that provide end office and tandem switches, is that they provide a software load that has multiple options. And the analogy I would use would be Microsoft Office. It's got Microsoft Word in it and it has Excel. They both, you know, do different things. You can certainly write a letter in Excel, and you can certainly put numbers into Word, but you use the software that is appropriate for that application. If I used Excel 90% of the time and Word 10% of the time, it doesn't change the cost of Microsoft Office or vice versa. You still have the software that's on the switch, and the provisioner selects whether or not it's going to be optioned as a Feature Group D trunk or it's going to be optioned as a LIS trunk or an intermachine trunk going off to another switch.

JUDGE RENDAHL: Did you say a machine trunk?

MR. GREENE: Intermachine trunk.

JUDGE RENDAHL: Intermachine trunk.

MR. GREENE: It's just a trunk that interconnects two switches, and you're just selecting options in a software load that's part of that

particular switch. I don't know that it changes the cost at all.

JUDGE RENDAHL: So I'm going to go to you, Mr. Linse, next, because I think we went around, but so is it correct to say that the difference between a Feature Group D trunk and an LIS trunk is the software, you would construct them the same, but what would connect one switch to another, you're connecting one switch to another through either fiber optic cable or copper, and the software that communicates between the two switches makes the difference between the Feature Group D and whether it's an LIS trunk or some other variation of trunk, or are they constructed differently?

MR. GREENE: My opinion would be is that it is -- and I wouldn't use the word simply software, I would say the software option. There's one software package that's on a switch, and you say I want this trunk to be Feature Group D or you select Feature Group D or however the system is set up, or you select it as LIS based upon the order that's presented to you. There's not a separate disk that you put in and load a different set of software in Feature Group D or a different set of software when it's LIS, it's all inherent to the switch.

JUDGE RENDAHL: The trunk itself though is

exactly the same?

MR. GREENE: Exactly, you could have a LIS trunk on that same card on Monday, click the switch and have it as Feature Group D on Tuesday.

JUDGE RENDAHL: Mr. Linse, do you have anything you want to correct or add or clarify from the conversation?

MR. LINSE: I can hold that for when I do my --

JUDGE RENDAHL: When you do your spiel.

MR. LINSE: Yeah.

JUDGE RENDAHL: Okay.

All right, Mr. Brotherson, did you have anything further you wanted to say on your --

MR. BROTHERSON: No, I would just add that whether you click the switch or not, the determination of whether traffic goes over a Feature Group D or a LIS or the determination of whether a call is local or long distance is not driven by what Qwest would like it to be or what Level 3 would like it to be, but there would be a set of rules that would drive that.

JUDGE RENDAHL: Okay, who goes next, Mr. Linse or Mr. Easton, or should we take a break?

MR. WILSON: Can we take questions?

JUDGE RENDAHL: Okay, let's take brief

questions, is this still the same Feature Group D issue?

MR. GREENE: I guess the question is more procedural.

JUDGE RENDAHL: Let's go off the record then.

(Discussion off the record.)

(Recess taken.)

JUDGE RENDAHL: We just heard from Mr. Brotherson and had some conversation, and now we have questions from Level 3.

MR. WILSON: Let me just ask a couple quick questions, Larry. The first question is if Level 3, on the issue of combining traffic on single trunk groups, if -- I understand that it would be okay with Qwest if Level 3 combined all -- combined its traffic on Feature Group D trunks, but it's not okay if it combines all its traffic on LIS trunks. And my question is, how much more expensive would it be for Level 3 to do that in paying -- because I understand you would have to pay the rates for Feature Group D trunks, what is the price; can you tell us that?

MR. BROTHERSON: No, only in this respect. I have kind of addressed the VNXX and VoIP issues, and Mr. Linse and Mr. Easton really have those issues in their testimony and in their exhibits, and I think they're more appropriate to address questions about

combining traffic.

MR. WILSON: Okay, I will ask them then.

MR. BROTHERSON: I mean I know what the dispute is, and I know what the dueling language is, but I think it's better to ask them.

MR. WILSON: No problem.

Second question, and first I will ask this with respect to dial-up Internet traffic, and the question is, how would Level 3 need to change its network in order for Qwest to agree to pay originating ISP compensation for that traffic, let's say for all of it?

MR. BROTHERSON: I'm not sure what you mean by originating compensation.

MR. WILSON: Qwest's customer originates the dial up --

MR. BROTHERSON: Call termination.

MR. WILSON: Well, the .007 rate, what would Level 3 need to do in order for Qwest to agree that it should pay that?

MR. BROTHERSON: The calling and called parties would have to be in the same local calling area. So, for example, in Seattle, Seattle customer is calling a Level 3 ISP customer, I think Mr. Greene's diagram showed that their customer was also in Seattle, that

would be a local call because it would be a Qwest Seattle customer calling a Level 3 Seattle customer.

MR. WILSON: Okay, so there would have to have the modem banks or similar technology in the local calling area?

MR. BROTHERSON: Yes.

MR. WILSON: Okay, for each local calling area.

And then the second question is for VoIP calls, the same question, how would a -- what would a -- how would they have to configure their network such that VoIP calls were local calls?

MR. BROTHERSON: The enhanced service provider, VoIP being an enhanced service where there's a net protocol conversion, the enhanced service provider would have to perform that net protocol conversion into TDM and be a customer in the local calling area where the called party is located so that the calling party, in this case the VoIP provider, and the called party are in the same local calling area. Again using Seattle as an example, if your VoIP provider is, your enhanced service provider is converting to TDM and delivering traffic for termination in the Seattle local calling area, any calls to Qwest Seattle end users would be treated as local calls.

MR. WILSON: But if, okay, but if the party that's being called was not in the Seattle local calling area, it would not be a local call?

MR. BROTHERSON: Correct.

MR. WILSON: Okay, what kind of call would it be?

MR. BROTHERSON: It would be an interexchange call.

MR. WILSON: So that would be a toll call?

MR. BROTHERSON: Yes.

MR. WILSON: Okay, interesting. So calls, VoIP that QCC is doing would be toll calls also?

MR. BROTHERSON: QCC hands off to an IXC for termination any calls that are bound to local calling areas other than where they have purchased local service.

MR. WILSON: They're paying long distance rates or access rates then on all of those calls?

MR. BROTHERSON: They've got a contract with various IXC's to terminate that traffic, and yes, the IXC pays the terminating access. So if you handed it off to AT&T -- if I might back up. If you have a VoIP provider who's buying local service in Seattle who's got a Seattle telephone number and they want to terminate a call to someone, whether it's in -- a land line RBOC

customer, then whether that call is bound for someone in Chicago or someone in Olympia or someone in Bellingham, it's handed off to an IXC for termination, because the caller is in a different -- the called party is in a different local calling area than the calling party.

MR. WILSON: I see. So the calls would be -- they -- someone, Qwest or QCC, would pay access charges for part of that call then?

MR. BROTHERSON: Yes.

MR. WILSON: Okay, interesting.

Last question for me. I thought I heard you say and I just want a clarification that dial-up access to VoIP is not valid VoIP access, maybe this is a corollary from what you just said, but that dial-up access to VoIP was not really IP access; is that what you said?

MR. BROTHERSON: I'm trying to recall my exact phraseology, but it is not, as you know, the definition of VoIP is one of the things we're debating in the agreement, and it is not a VoIP call for purposes of the ESP exemption or treating it as a customer. If it originates on the PSTN, then the only, and it's being handed off for termination on the PSTN, it's IP in the middle. If it originated on the PSTN and never comes to Qwest for termination but rather terminates to someone

on broadband, we never see it, and we don't care what happens to it.

MR. WILSON: Okay. I don't -- I'm not sure this is pertinent to anything Level 3 does, I was just as an engineer I thought that the Vonage or that the AT&T case was IP in the middle meant transport, IP transport in the middle, not how you accessed I guess.

JUDGE RENDAHL: Is that a court case?

MR. WILSON: Yes, I was just asking as an engineer his interpretation, yeah, the FCC case.

JUDGE RENDAHL: Well, I don't know that we need to interpret cases right now. I think we can do that on briefing and later.

MR. WILSON: Thank you.

JUDGE RENDAHL: Mr. Greene.

MR. GREENE: I have a couple of questions. The first one is on LBB-6.

MR. BROTHERSON: I have it.

MR. GREENE: I'm most interested at the depiction at the bottom of the page, the foreign exchange service, and I just want to make sure that I have my nomenclature correct. On the left side of the diagram where the end user actually answers the telephone, is that normally referred to as the closed end of an FX service? And the other end is referred to

as the open end, meaning that multiple people on the right side of the diagram could call a number in local calling area B and that would cause the customer's phone in local calling area A to ring?

MR. BROTHERSON: I'm not sure how to answer that. The customer's physical location is in local calling area B. That could be, I will just pick a place at random, that could be Bellingham. So you could have a customer's house physically located in Bellingham, but they have no physical connection to a Bellingham switch. The loop, if you will, is in fact a private line that goes all the way to say Seattle, which is local calling area A. Anyone in Seattle could dial that Seattle number, and the customer physically in the house in Bellingham, their telephone would ring. I'm not sure and I'm hesitant to say which is the open end and closed end, because I would want to confirm that before I --

MR. GREENE: And perhaps you can maybe answer my question, which, is it the telephone in the blue box buying the FX service, or is it the green box buying the FX service?

MR. BROTHERSON: The customer in the green box on the right-hand side in local calling area B buys FX service to connect to local calling area A switch.

MR. GREENE: Okay, I had it reversed, so I

just want to get clarification on that. So the example you gave of somebody, if B is Bellingham and A is Seattle, multiple people in Seattle can dial this customer in Bellingham, and the folks in Seattle will not pay long distance, it appears like a local number to them, they dial the local number, and it makes the phone in Bellingham ring?

MR. BROTHERSON: Yes.

MR. GREENE: Can a CLEC offer foreign exchange service?

MR. BROTHERSON: Yes.

MR. GREENE: Would they do it in a similar manner to Qwest, or would they have to do something different?

MR. BROTHERSON: They could have a customer on a long loop, if their switch is in Seattle and they have a long loop off to Bellingham, they could offer someone in Bellingham Seattle service.

MR. GREENE: When a call is exchanged between two carriers, doesn't the originating carrier pay the terminating carrier for the service of "termination".

MR. BROTHERSON: For local calls they would, for non-local calls they would look to the interexchange carrier.

MR. GREENE: Are the customers in Seattle in

the FX example making a local call?

MR. BROTHERSON: Yes.

MR. GREENE: So if the CLEC were offering FX, then there would be that exchange of settlement for the call?

MR. BROTHERSON: Yes.

MR. WILLIAMSON: Can I, I'm sorry, can I ask a clarification of the last question, and the only adder that I'm confused with your scenario is that the customer in Bellingham is physically in Bellingham, and his telephone is in Bellingham even though the calls are completing to the Seattle switch as local, and all the fees that are appropriate are paid as a local call, but the call is physically answered in Bellingham?

MR. BROTHERSON: That's correct, the private line, if you will, is a long loop, special access price, you know, private line price, but it's a long loop. And we don't have a depiction reflecting Mr. Greene's question, but if Level 3 had a long loop to someone's house in Bellingham, Seattle customers would dial that Seattle number, and that too would ring in that house in Bellingham. But they would have -- we would have delivered the call to their Seattle switch, and they would have put the traffic on a long loop. Qwest would not have hauled it up to Bellingham.

MR. GREENE: Okay, so the CLEC would have been responsible to haul it from Seattle to Bellingham in offering that service?

MR. BROTHERSON: Yes, they would be responsible for the loop to their end user.

MR. GREENE: Okay. Is there any prohibition on part of that loop being a private line and part of that loop being IP?

MR. BROTHERSON: For their end user?

MR. GREENE: For their end user.

MR. BROTHERSON: No, not that I'm aware of.

MR. GREENE: On LBB-5, you depict a VoIP POP, what is that?

MR. BROTHERSON: An enhanced service provider and someone that is in the voice over Internet protocol telephone business that wishes to buy local exchange service would purchase from a telephone company local exchange service, the essence of that being an enhanced service provider or the ESP exemption is the net protocol conversion. So the customer would convert IP packets into TDM and hand them off and then deliver those TDM calls to the local exchange network for termination.

MR. GREENE: So if I'm a -- if I want to start Mack's VoIP Service, I have to have a device there

that does an IP TDM conversion and also lines bought from some local exchange carrier in every local calling area where I want to offer local service?

MR. BROTHERSON: Yes.

MR. GREENE: As I have understood, and we talked a little bit about it in this diagram, QCC uses the PRI technology combined with private line to backhaul traffic outside of a local calling area. I don't believe there is any conversion from IP to TDM inside a local calling area. Did I misunderstand how you guys do things?

MR. BROTHERSON: Well, there is conversion in the local calling area. I mean if they're buying local service in Seattle and they are acting as a VoIP provider, they would be an enhanced service provider buying local Seattle service, they would convert IP into TDM in Seattle in the Seattle local calling area and then terminate calls to other Seattle end users in the Seattle local calling area.

MR. GREENE: So you're saying that QCC puts devices into every local calling area where they offer VoIP service that does an IP to TDM conversion? You just used Seattle as an example, but that was just an example, in every local calling area there's some device doing that conversion?

MR. BROTHERSON: Well, they don't purchase local service in every local calling area.

MR. GREENE: That they offer service in is my question.

MR. BROTHERSON: Yes.

MR. GREENE: So there's some type of media gateway or other protocol converter inside of every local calling area?

MR. BROTHERSON: Oh, I see what you're asking. Well, they would -- they would purchase local -- they must purchase local service in the local calling area where they seek to be a local customer. If they purchased an FX product under the tariffs, then in theory you could buy local service in Salem and a private line or FX service to your equipment in Seattle.

MR. GREENE: Okay.

MR. BROTHERSON: But you would buy -- but you would have to buy local service in Salem in order to terminate traffic as local in Salem. And if you didn't buy local service in Salem, they would hand it off to an IXC for termination. Olympia, I'm sorry.

JUDGE RENDAHL: That's okay.

MR. BROTHERSON: I apologize.

JUDGE RENDAHL: Well, is that how QCC does it, purchasing FX service, or is this a confidential

discussion?

MR. BROTHERSON: It's not confidential. I would have to check though to see if we have any FX in Washington, and I don't -- I can look that up, but I don't know if we're buying any FX in Washington. The only reason that we would buy FX, this network configuration, is if someone in Olympia wanted to subscribe to a VoIP service, and I don't know the answer to that.

JUDGE RENDAHL: So do you know exactly, is there a gateway in each local calling area that Qwest QCC wants to serve with VoIP, or do you know?

MR. BROTHERSON: A, I don't know.

JUDGE RENDAHL: Okay.

MR. BROTHERSON: But B, they would -- if they -- they would have to buy local service, and if they bought local service under an FX, under a tariffed FX, they could -- they wouldn't have to have equipment in the local calling area, they could put it on a private line to say back to Seattle. So the -- remember my example of the customer in Bellingham on an FX, their house in Bellingham on an FX but they were actually drawing dial tone in Seattle, they could have their house, their residence, their equipment in Seattle, but they would have a private line and subscribe local

service back to Olympia and be buying Olympia local service. If they did, they would be assigned an Olympia telephone number, people in Olympia could call that number, and the ESP could terminate calls in Olympia, but people in Seattle couldn't -- it would be a toll call to reach that telephone number because they're connected to the Olympia switch and the NNX code follows the guidelines of the local exchange boundaries.

JUDGE RENDAHL: Okay.

Mr. Greene, did you have more?

MR. GREENE: I did.

So we follow that logic, the -- if you refer back to MDG-3 it shows Spokane there with Level 3 private line, Level 3 facilities where --

MR. BROTHERSON: Just one second, Mr. Greene.

MR. GREENE: Mine, I'm sorry, I changed up on you there. On I think it's the second local calling area down on the left-hand side, it shows Spokane there with Level 3 facilities, a private line. So if Level 3 were to offer its customer, and let's just pick one, Microsoft, MSN, offer its customer an FX service or FX like service, and we have that private line that we backhaul it from one side of the state to the other and hand it off to Microsoft who is located just outside the Seattle area, that would be an acceptable architecture?

MR. BROTHERSON: Actually, this isn't a private line in the sense that we have just been discussing. This is a trunk to a telephone company that is interposed between the Qwest customer and the Level 3 customer. It's a trunk to a telephone company. Their customer is subscribing to local service off of their switch in Seattle, your switch in Seattle.

MR. GREENE: So if we could go back to LBB-6 then where you described how a CLEC could offer foreign exchange service, what would they need to locate at either end of the circuit to have it qualify as FX?

MR. BROTHERSON: For Spokane?

MR. GREENE: Yes.

MR. BROTHERSON: If they handed the call off to a customer in Spokane --

MR. GREENE: No, the call is being handed off on the other end in Redmond.

MR. BROTHERSON: That's right, but you asked me what they would have to do. If they handed the call off to their customer in Spokane and their customer had a long loop to their equipment from Spokane, then they would be offering Spokane local service, they would be handing the call off to the end user in the local calling area where the NNX code is assigned, and it would be treated as a local call. I mean you can also

hand it off from your switch in Seattle, that's not prohibited activity, it just is not a local call.

MR. GREENE: So the network extension into Spokane can not be bundled --

MR. BROTHERSON: Let me qualify myself.

MR. GREENE: Sure.

MR. BROTHERSON: I don't want to say it's not a prohibited activity. The whole issue of whether VNXX should be permitted or it should be routed alternatively is a separate matter that we'll get into in the arbitration and also the Commission will get into. The point I was trying to make is that the question was how would they get call termination for local calls, and my answer was to hand it off in Spokane, and there's a separate question of if we choose not to charge the local call termination, is it then okay to do the NXX, and I think that's a separate debate.

MR. GREENE: Okay, fair enough. I guess what I'm trying to understand is Level 3 has a network extension into Spokane that it uses those facilities to bundle services to customers.

MR. BROTHERSON: Right.

MR. GREENE: You describe it as a trunk between networks, it's not possible for Level 3 to have that component of its network bundled as that "long

loop" for a customer.

MR. BROTHERSON: Are you asking me a question or --

MR. GREENE: Is that possible?

MR. BROTHERSON: No. Well, you've got facilities if you wanted to peel off something for a private line, but you would still have to hand the call off to a customer. The facilities that go down to Spokane in your picture are, whether it's your private line which is the blue indications or with some modifications to our exhibit, I understand we've got some corrections to make, but whether it's a blue line which is facilities of Level 3's or a red line which is LIS trunking that's been purchased from Qwest, those are facilities between one telephone company and another telephone company. Level 3 wants them classified as such because telephone company facilities carry all sorts of rules and regulations like reciprocal compensation for local calls, obligations for who has to pay delivery if it's a local call. So by Level 3 inserting themselves between the customer and Qwest, it triggers things as a CLEC that an end user VoIP provider couldn't do. But the flip side of inserting a telephone company in the middle of that process means the customer is no longer -- those are no longer facilities of the

end user customer to Spokane, those are the CLEC or telephone company's facilities to Spokane, and the end user customer has no facilities to Spokane.

MR. GREENE: I'm not sure I follow that, so let's go back to LBB-6 --

JUDGE RENDAHL: Let's be off the record.

(Discussion off the record.)

JUDGE RENDAHL: Let's be back on the record, Mr. Greene.

MR. GREENE: So back on LBB-6, there was a customer in Bellingham which was depicted by the green box, and then there were the citizens of the Seattle area which could reach the customer in the green box by calling a phone number that was assigned to the Seattle area. And you said a CLEC could offer this service, and then you have just now gone through an explanation of a customer's facilities versus the carrier's facilities. If I'm a CLEC offering this FX service, what did I need to put into Seattle to serve my Bellingham customer?

MR. BROTHERSON: If you were to draw in this very example, assuming local calling area A is Seattle and local calling area B is Bellingham, which is the way we have been talking about it, a Level 3 switch on the left-hand side, local calling area A, which is Seattle, and Level 3 has a long loop to their customer up in

Bellingham, then that would be an FX being offered by Level 3. And by inserting themselves in the middle of that connection, it's no longer a connection between a telephone company, for Qwest, it's no longer a connection between a telephone company and an end user, it's now a connection between Qwest as a telephone company and Level 3 as a CLEC, which triggers things like we would then be obligated to pay you call termination, you would be able to buy TELRIC LIS and other things that come with being a telephone company.

MR. GREENE: Okay, so I guess -- so the operative thing in that statement was I need to have a switch there now?

MR. BROTHERSON: Yes, in the example we just walked through, that is correct.

MR. GREENE: Okay, I will stop there.

JUDGE RENDAHL: Okay, are there any other questions for Mr. Brotherson?

Okay, I think, Mr. Linse, are you next?

MR. LINSE: Yes, I think I am.

If you want to turn to Exhibit LLB, or I'm sorry, LBB-7.

JUDGE RENDAHL: LBB-7?

MR. LINSE: Yeah.

JUDGE RENDAHL: Okay.

MR. LINSE: So basically what this drawing represents is the interconnection of a CLEC alongside of an interexchange carrier. CLEC is competitive local exchange carrier, I don't know if we have actually outlined what that acronym meant today.

JUDGE RENDAHL: I don't think we have, thank you.

MR. LINSE: And basically they are essentially just ports on a switch. The software in the switch defines what the capabilities of those ports perform. With local interconnection, it is what they call an intermachine trunk. And the intermachine means it's between two machines, the machines namely being switches, and that's kind of how they have been genericized in the telecom -- in the technical side of things. The software, the switch, the differences there are essentially with the Feature Group D, as Mr. Wilson explains, the equal access capabilities of the switch that allows an end user to presubscribe to an interexchange carrier. The Feature Group D functionality allows that functionality to route traffic to the customer's presubscribed carriers.

If you take that into consideration for a moment and then you look at Mr. Greene's exhibit that I have up here, and I'm sorry, but I forgot which exhibit

this was.

JUDGE RENDAHL: I believe this is MG-4.

MR. LINSE: MG-4, we have the PRI connection. This type of connection is again a trunk but is also known as a trunk with line side treatment essentially.

JUDGE RENDAHL: A trunk with line side treatment?

MR. LINSE: Correct.

JUDGE RENDAHL: Okay.

MR. LINSE: In other words it provides line type service to customers, so it is a service that is provided to end user customers versus the Exhibit LBB-7 which represents the connections between carriers. And again, you know, the software basically defines that for the purposes of, as Mr. Greene's Exhibit 4 is, you know, it's -- there's -- the software is designed to provide service to an end user, whereas the trunking that is identified on LBB-7 is utilized for trunking between carriers.

JUDGE RENDAHL: So can you give me a concrete example of how this might play out?

MR. LINSE: The connection between carriers is for the exchange of traffic of those carriers and users versus the end user, the traffic that is exchanged there is between the carrier and the end user.

JUDGE RENDAHL: So, for example, the Feature Group D analysis, that would be the IXC, for example, would be AT&T?

MR. LINSE: Correct.

JUDGE RENDAHL: And with a Qwest switch. So AT&T makes the arrangements for the trunk and tells Qwest which end user presubscribed to AT&T?

MR. LINSE: Actually AT&T would subscribe to the Feature Group D service, and then the end user customers when they would subscribe to local service, they would be asked what their long distance -- who their long distance company they would like to subscribe to would be. And then based on that query from, for example, a Qwest, you know, service representative, they would take that information, and when they set up the line service for that customer, they would make sure that that -- that the carrier identification code that Mr. Wilson talked about was translated against that customer's line so any time they dial 1-plus, that would go automatically to that carrier.

JUDGE RENDAHL: Okay.

MR. LINSE: The carrier of the customer's choice.

JUDGE RENDAHL: So for the PRI connection example, I call Qwest and say I want VoIP service

through QCC, the end user isn't QCC, the end user is me? I'm just trying to get a sense of how this works.

MR. LINSE: Well, if you want VoIP over IP, you would have to go to a company like QCC to obtain the voice over IP type service. QC would not provide a voice over IP service.

JUDGE RENDAHL: So QCC is arranging for the PRI connection with Qwest?

MR. LINSE: That is correct.

JUDGE RENDAHL: So how is that different than Feature Group D if QCC is the end user?

MR. LINSE: Because they subscribe to the PRI, the PRI is an end user service, it's provided to them as an end user where an interexchange carrier would come to Qwest and say, I want all my customers' traffic routed to me versus this PRI where they're just obtaining local service.

JUDGE RENDAHL: So it's a dedicated line?

MR. LINSE: Correct.

JUDGE RENDAHL: As opposed to the Feature Group D, which is not a dedicated line?

MR. LINSE: Correct.

JUDGE RENDAHL: So the connection between QCC to its end users goes over the Internet?

MR. LINSE: Yes, I think --

MR. SMITH: From a VoIP --

JUDGE RENDAHL: You both can't talk at the same time, so Mr. Linse first.

MR. LINSE: From a VoIP context from the Internet, yes, that would go across the Internet.

JUDGE RENDAHL: So QCC does not need to purchase individual lines to its customers?

MR. LINSE: That's the one benefit of with like voice over IP is those connections are not necessarily have to be purchased by the VoIP provider. The end user subscriber who has a broadband connection would obtain that connection however they do it, either through a cable modem or DSL or, you know, YMax or whatever type of technology they use in order to get the broadband connection, that would be the connection that would be utilized for the VoIP call flow.

JUDGE RENDAHL: Okay, sorry to interrupt.

MR. LINSE: No problem.

That's all I was really planning to do with LBB-7.

Then I wanted to turn to Mr. Wilson's exhibit that has the Power Point slides, and I'm not, again, I'm not remembering exactly --

MR. SMITH: It's KLW-3 I believe.

MR. LINSE: KLW-3.

JUDGE RENDAHL: Yes.

MR. LINSE: And I just wanted to go through this particular exhibit and just point out some of the places where we differed or where we're the -- we're basically agree.

JUDGE RENDAHL: Now this is basically going into the argument the parties have, is there a technical --

MR. LINSE: Yeah, there is, everything I'm going to talk about is fairly technical.

JUDGE RENDAHL: Okay, let's go ahead.

MR. LINSE: There's, in the second item down where it says Level 3's position, there's no technical or billing impediments that prohibit Level 3 from combining traffic of all types. Qwest, from a technical perspective, there are a couple issues that Qwest has with the technical capabilities of our network. And the first one is for, well, from a billing perspective it's because we have wholesale switching customers, in other words our old UNE-P type services, there are some billing that needs to take place there that Mr. Easton can explain more fully, however, the result of having wholesale switching is essentially providing Qwest type service and reselling it on a UNE basis by competitive local exchange carriers.

And the problem comes down is when you look at the language that was proposed by Level 3 where they say that they will not send traffic to I guess it's transit limitation, they will not send traffic to telephone numbering codes or NPA-NXX's that home off of Qwest's switches of other carriers. The problem with that is that with wholesale switching, those numbering resources are Qwest numbering resources, so there's no real way to distinguish whether or not a particular call is destined for one of these wholesale switching customers. And so that would prohibit us from providing that wholesale switching customer with a bill or a record in order for that carrier to properly bill for the traffic that either originates or terminates to that carrier's customer.

JUDGE RENDAHL: So you're saying there's a problem in getting that ATIS record?

MR. LINSE: And it's not really the record so much as it won't ever be created, because of the way that Level 3 proposes to send that traffic to Qwest, it will not create, there will not be any recording capabilities that translate into a record that's provided to the wholesale switching customer, i.e., the competitive local exchange carrier that buys the wholesale switching from Qwest.

MR. EASTON: I will get into that.
MR. WILLIAMSON: So you will say why?
MR. EASTON: Yeah.
MR. WILLIAMSON: Okay, I will let you off the hook.
MR. LINSE: So that's the one aspect of that issue.
The analysis for Level 3's position is practical and efficient. Qwest's proposal essentially, I mean when you look at that page as well as page -- when we talk about efficiency of trunking, essentially Level 3 is saying that they want the ability to have efficient trunking by establishing one network. The exact same efficiencies are obtained by routing over Feature Group D we offer that Qwest has provided Level 3, and there's no technical difference in the efficiencies of routing the way they're routing or the way that they wish to route and the way that Qwest has proposed to route, so there's really no technical difference there as far as efficiencies.
MR. WILLIAMSON: I'm sorry, I've just got to. There's no technical difference, but there's a price difference, and I'm struggling with why there is a price difference between Feature Group D and the LIS trunks, because we really haven't come up with a reason.

MR. LINSE: And I think those price differences are based on the underlying regulatory application of how those -- how the companies compensate one another for the traffic.

MR. WILLIAMSON: So not taking into account access charges, the price for a Feature Group D trunk is still more expensive than a LIS trunk or not?

MR. LINSE: It's based on the tariff, I'm not exactly sure what the differences are. I think that's probably the main difference is one is tariff, and the other one is based on the interconnection --

MR. BROTHERSON: I would suspect if transport is TELRIC priced on LIS that our access products are not TELRIC priced.

MR. WILLIAMSON: Thanks.

MR. LINSE: I think that's a fair conclusion.

And then on the drawing with the arrows, I think drawing number 2.

JUDGE RENDAHL: Page 2.

MR. LINSE: I'm sorry, page 2, Qwest's proposal is that Level 3 combine both the inter and the local and intraLATA toll onto one trunk group, so this I wouldn't say fairly represents what Qwest's proposal is, because Qwest's proposal would allow the traffic to flow over a single trunk group. The one piece that this does

omit, which is the transit traffic, in other words the traffic that originates either on Level 3's network or from an interexchange carrier and terminates to, for example, an independent company.

JUDGE RENDAHL: Now is transit traffic, I know transit traffic is an issue in other circumstances, is it an issue in this case?

MR. LINSE: It is an issue in this case. There doesn't seem to be language -- or the transit limitation is what is supposed to cover that particular issue. However, then it becomes more of a language dispute based on the terminology that's used within the contract. Homing arrangements can mean many different things, and the homing arrangement could be interpreted to actually allow the traffic that Level 3 wishes or says that they are not going to send to us. Because you can home a switch off of -- an end office switch off a tandem switch, the NXX's look like they are homed off of a tandem switch. And if it's a Qwest tandem switch, then it would essentially allow independent company traffic to be routed across Qwest's switch or through Qwest's switch. This then brings in that similar problem that I talked about earlier with the wholesale switching where Qwest then is unable to create the appropriate record in order to provide an independent

company in order for the independent company to then charge the interexchange carrier.

JUDGE RENDAHL: Because the record does not travel with the call?

MR. LINSE: When -- the functionality of a Feature D trunk allows Qwest to create a recording, and then this recording is done based on industry standards, and it's called an 1101 record. These records are shared between carriers for long distance traffic. When you have connection with Qwest over a local interconnection trunk, those recordings don't occur in a manner that will establish that record, create the record so that it can be shared between the carriers.

MR. WILSON: I guess I thought the meet point trunks at the bottom covered that issue. We tried to break those out for that very reason.

MR. LINSE: Well, just to respond to that, the meet point trunks that are identified below there are typically what they call jointly provided switched access type trunking, which allows basically the carrier identification code or the Feature Group D signaled type traffic. So the traffic that's destined for an interexchange carrier, by utilizing that carrier identification code those trunks are specific for those types of calls, in other words for traffic that was

destined for an interexchange carrier.

So, for example, Level 3 end user, let's say they have typical telephone customers, you know, local exchange service with dial tone and customers that pick up their phone and dial their friends and family. A Level 3 customer picks up the phone, dials 1-plus to their grandmother. And let's assume for the sake of argument that we're using that that customer has preselected or presubscribed to AT&T's long distance. That call would basically enter the network through Level 3's switch, Level 3's switch would basically identify that this is a 1-plus call, and that subscriber is -- has preselected AT&T for their long distance provider. Level 3 switch would then signal the carrier identification code into Qwest's switch. Because Qwest has the access tandem, that's typically where interexchange carriers pick up the traffic, and that's the whole purpose of the Feature Group D trunks is to allow that single point in the LATA for interexchange carriers to pick up that traffic. Okay, so that traffic will route then to Qwest over these meet point trunks, which then the Qwest switch will then route to AT&T, and then AT&T will then carry that call long distance to the terminating LEC's network.

Transit traffic on the other hand does not --

is not covered by this because there is no carrier identification code associated with that traffic. It's merely transitting the network, thus there is no -- because Level 3 is wanting to route Feature Group D traffic to Qwest, there is no CIC code that's associated with that traffic that they're delivering to Qwest, therefore Qwest has no way to record that traffic in order to then create the record to provide to the terminating LEC.

In the instance where the Level 3's end user dials 1-plus to grandmother, that -- Level 3 would establish that record at the end office. On the other end of that call where AT&T then hands that to the terminating LEC to the Level 3's customer's grandmother, that is where that call would then route back into the LEC network over a Feature Group D trunk.

Now taking it from the delivery of AT&T into the LEC network, that traffic is then recorded at the tandem, and then it's a tandem provider's responsibility then to provide the records necessary for any other LEC's that are in that call flow. So if that -- so if that traffic then terminates directly to Qwest's end users, Qwest would create that recording, and Qwest would bill that interexchange carrier for the termination of that call, it's also called terminating

access. If that call was then terminating to an independent company, that call would come into Qwest's switch, Qwest would then route it to that independent company based on their NPA-NXX, and Qwest would create the recording, and then we would share -- we would both charge the interexchange carrier for that traffic. So Qwest would charge for its switching and transport, portion of the transport, and then the independent company would charge for its switching and its portion of the transport, and both would charge that to the interexchange carrier. Under Level 3's proposal, that record would not be created.

JUDGE RENDAHL: And is that because, and I hope I'm not beating a dead horse here, but the software for a Feature Group D trunk records the CIC or the recording information, but the interconnection trunk does not, the software does not; is that the difference?

MR. LINSE: It is the translations of that into a record. There is no process or no mechanized method in order for that information to be translated into a record to provide to the independent companies.

JUDGE RENDAHL: So it doesn't matter whether it's a Feature Group D or an interconnection trunk, I guess I'm not getting what it is that prevents the record from being translated.

MR. EASTON: It's the systems that are associated with either LIS trunks or Feature Group D. Record creation systems associated with LIS trunks can not create this access record that would be passed on to the independents. Feature Group D has that capability, the system that lies behind it I should say has that capability, the record can be produced, passed on to the independent for those purposes.

JUDGE RENDAHL: So it is the difference between Feature Group D interconnection and the software and the system behind them?

MR. EASTON: The system behind them, it may not be the trunk itself, but the system behind the trunk.

JUDGE RENDAHL: The programming for the trunk?

MR. EASTON: Right, there are billing differences and records creation differences with Feature Group D trunks and the local interconnection trunks.

JUDGE RENDAHL: Okay, thank you.

MR. LINSE: And there are circumstances where -- I mean Level 3 is attempting to address that, but the unfortunate thing is that can't be done cleanly. With number portability, if calls are not queried coming in

to Qwest's network, some of that traffic can slip through into other networks. And I'm sure you're aware of some of the phantom traffic issues that are going on right now, that just adds to that amount or that type of traffic. By allowing a LIS type trunk group to carry access type traffic, you will run into more situations with phantom traffic.

JUDGE RENDAHL: Okay, did you have more you wanted to go into?

MR. LINSE: On page 3, the combining of traffic, again I went -- all of these statistics apply to the Feature Group D trunk option that Qwest has offered Level 3. You know, again, there's no difference between the efficiencies that are gained by routing over LIS over versus feature group D.

And on page 4, combining traffic causing misrouting, Qwest does not have a problem with misrouting based on this architecture. It's not an issue that Qwest has risen. And then the increase of fraud is also not an issue associated with Qwest's position or testimony or technical anything, so.

And with that, I think that pretty much concludes kind of where I'm at with this, so if you have any questions.

JUDGE RENDAHL: I think Mr. Williamson may

have one.

(Discussion off the record.)

MR. WILLIAMSON: Let me pose it real quickly then, I just want to make sure that I understand the difference between Feature Group D and LIS trunks and what they provide. Because for a while we talked about them as being pretty much the same, not talking about the electric characteristics of the trunk but the data that they provide, the billing data they provide, and LIS trunks do not provide any kind of record as to the call that passed through it, but a Feature Group D trunk can, I'm not sure it always does, but can provide a detailed recording that can be used for billing between carriers; is that right?

MR. LINSE: Yes, that's correct. However, and this -- I kind of go into this in some of my testimony I believe about the different recording capabilities on a Feature Group D trunk versus a LIS trunk. Feature Group D trunks are switch based recordings. You know, that's how feature -- the information is recorded with a Feature Group D trunk. With a local interconnection trunk or a LIS trunk, Qwest utilizes link monitoring, which uses the SS7 network, in other words the information that comes across through the SS7 stream in order to record the traffic on that

type of trunk group.

Because you have went from pre '96 of having access traffic or long distance traffic versus local traffic, and local traffic was there was no compensation on local traffic, there was no need to have a recording mechanism in order to set up on those types of trunks. So after '96, then there was a development in order to record the local traffic on those trunk groups. The difference is the Feature Group D does not go into a recording of a record -- creation of a record in order to -- like a 1101 record.

MR. EASTON: And just to follow up, Feature Group D has billing systems with Qwest associated with it that allow Qwest to bill the appropriate tariff rates for Feature Group D. LIS does not have that same capability.

JUDGE RENDAHL: You will need to speak into the mike.

MR. EASTON: I usually don't have a problem with not being heard.

So there's a billing issue, and then as Phil was also discussing, there's a record creation issue. Feature Group D has the capability to produce that access record and pass it to other parties. The LIS trunks do not have that capability associated with them.

JUDGE RENDAHL: Do you have any other questions?

MR. WILLIAMSON: No.

JUDGE RENDAHL: Okay, I have one question. If you look at the Power Point KLW-3 on page 3, the combining traffic facts, I just wanted to clarify, you said that Qwest's proposal would address all of these issues. Maybe I'm -- am I misstating you?

MR. LINSE: Yes. No, you're not misstating me. It would address all of these issues, and actually it would actually be better. Because in order to route transit traffic and since -- if Level 3 is saying that they're not going to route transit traffic to Qwest, that means they have to establish another trunk in order to get that to the terminating carrier. Qwest's Feature Group D option does not prohibit them from routing that transit traffic across that trunk group. So in a sense, the Feature Group D proposal that Qwest is offering to Level 3 actually provides them more efficiencies, because they have to have fewer trunk connections.

JUDGE RENDAHL: Okay, and I want to focus on the billing, my understanding is that Qwest is not proposing a percent local use and percent interstate use analysis; is that correct?

MR. LINSE: Bill I think is going to touch on

that in his -- he might be a better person to --

JUDGE RENDAHL: Okay, I will hold my question then.

Any other questions?

Okay, any questions from Mr. Level 3 for Mr. Linse?

MR. GREENE: Just a couple of quick ones here. One of the architectures we talked about in the case of VoIP was PRI and use private service to backhaul that to wherever your switch or customer may be. First question is, can that be used in both directions, can calls come in and can calls go out?

MR. LINSE: I guess I'm not clear on what you mean by calls go in and calls come out.

MR. GREENE: If there is a VoIP customer in calling area B let's say, and their VoIP provider buys PRI's in calling area A, can that VoIP customer make calls out to calling area A across those PRI's?

MR. LINSE: Do you have a drawing that you can kind of maybe direct me to to make sure that I'm --

MR. GREENE: I don't believe it was in our drawings, but we talked about it at a number of technical conferences where it was expressed that one of the options that Level 3 had was to get PRI or PRI service, and I'm just trying to clarify if that isn't --

I probably should have asked that question first then, is that an option for us in Washington?

MR. LINSE: Yeah, any customer can purchase a PRS or PRI under the tariff.

MR. GREENE: Okay. And can you make -- can you have calls leave your network as well as come to your network across that PRI?

MR. LINSE: Based on the configuration of that PRI, that could be an option that would be technically possible and would be acceptable.

MR. GREENE: Okay. And you talked about that the switch would have a trunk side connection, is that -- am I saying that correctly for the PRI service?

MR. LINSE: It's a trunk board on the switch with basically a line service to it.

MR. GREENE: So if I were to follow that architecture, which you're saying is allowable, how are the 1101 records created for the calls going out the other direction?

MR. LINSE: What other direction?

MR. GREENE: If I have dialed out through my PRI, how are 1101 records created to go to these other carriers, the wholesale customers, these other folks with the PRI?

MR. LINSE: End user customers don't receive

1101 records, it's a carrier -- I mean it depends, do you want to do business as an end user, or do you want to do business as a carrier? So you first of all have to make that decision. Then based on that decision, then you configure your network.

MR. GREENE: All right, well, let's say I'm an end user buying a PRI, and I make a call to one of your wholesale former UNE-P customers that would normally receive a phone record for use of that call, I bought your PRI, and I backhauled it out of the local calling area with a private line to another local calling area, how does the wholesale customer get the record that explains to them what happened on that call so they can charge for it?

MR. LINSE: That is a service that is provided by the PRI, which is a line service, so it's a service that's provided to the end user. They would receive whatever -- I'm not sure if they receive local -- the local compensation or if it's just the access.

MR. BROTHERSON: There's no record, it's a local call to the VoIP provider under the ESP exemption. They don't pay access, they don't charge access, they're treated as an end user, they can buy local service. So when people in Seattle call the VoIP provider, if they bought local service, the local Seattle service, it's

just a local call. It might be on a private line and they might be sitting in a building 50 miles up the road, but it's still going to be a local call.

MR. GREENE: But I bought the service from Qwest, I didn't buy it from your resale customer, I didn't buy from another independent.

MR. BROTHERSON: You bought what service from Qwest?

MR. GREENE: The PRI.

MR. BROTHERSON: That's a local service out of our tariffs.

MR. GREENE: I know, but how does the independent or the wholesale customer get their call? I thought it was important that these people receive records to be able to bill for it, but now I can buy a PRI and I don't get -- so I'm confused.

MR. BROTHERSON: Well, under the guidelines it's treated as a local call.

MR. LINSE: And, for example, if the independent company does not have local connection with Qwest for where you have purchased your PRI, their customer would have to dial 1-plus in order to have their traffic. If an independent company's customer dials this PRI and it's across local calling area boundaries, that independent company's customer would

have to dial 1-plus, it would go to their presubscribed interexchange carrier, that then traffic would go to the interexchange carrier, would then come back into the Qwest network, Qwest would then route it to the PRI based on the number resources assigned to that PRI service.

MR. BROTHERSON: If I might interject --

MR. LINSE: And access would then apply, and records would be created under that scenario.

MR. BROTHERSON: I think we're missing some information in the question. If the only people in a particular local calling area are Qwest customers and that's where the FX is purchased, then all of those customers' calls to that number are local calls. Are you assuming there's an independent in the local calling area?

MR. GREENE: If it's shared with Sprint or you share --

MR. BROTHERSON: Okay, then --

MR. GREENE: -- a calling area with Verizon.

JUDGE RENDAHL: Let's please not talk over one another. Wait until the other person is done.

MR. GREENE: It's a pretty --

JUDGE RENDAHL: Mr. Greene, just wait, okay.

Mr. Brotherson, are you done?

MR. BROTHERSON: I think I was.
JUDGE RENDAHL: Okay, Mr. Greene.
MR. BROTHERSON: So you're assuming multiple independents in the -- of both -- an independent and Qwest in the same local calling area, say Seattle local calling area, and you're asking if access records are provided to that independent; is that the question?
MR. GREENE: Yes, that was the question. Mr. Linse had brought up the issue of wholesale customers of Qwest and independent companies' ability to receive records to bill for access calls. And so what I am now hearing is that that's important if we are using our network or using LIS trunks, but if we buy retail PRI services from Qwest, those independents and other wholesale customers don't have anything to worry about.
MR. BROTHERSON: Mr. Easton will I think talk about QPP, but the wholesale customers he was referring to were the customers that buy the wholesale switching, that's a different product from the QCC product. But there is a question, should -- if an independent telephone company and Qwest both have end users in a local calling area, and Qwest sells FX product to someone, and it goes up to their home in Bellingham, should access charges be paid on FX calls. And to date, no state has ever imposed access charges on FX calls,

they have treated them as local calls. It's a recognized way of providing local service plus the private line piece, and to my knowledge it's never been imposed. But that's a different type of example than the wholesale switching that we were talking about earlier.

MR. GREENE: Yeah, that's one end of it, I guess a body of customers or carriers that were to receive records and not a particular product that was being purchased on this particular call flow.

MR. BROTHERSON: Well, I don't want to step on Mr. Easton's stuff, but if you buy the unbundled product, QPP now, UNE-P before, if you buy that product, one of the things the CLEC's expect to be able to do is bill long distance carriers access, and they look for records to do that.

MR. GREENE: But they don't expect to --

MR. BROTHERSON: But the independents have not historically looked at billing Qwest for any calls that their customers might have made to an FX customer that's purchasing local service in those same local exchange areas and then putting it on a private line. An argument I guess could be made that access should apply to FX too, the times have changed, but there is not an expectation for access on FX, and there is no

access records created for the FX customer as an end user. There is an expectation of access records being produced, and the person who bought the UNE-P or now the QPP, they do expect to bill long distance carriers access for the use of their loops, and there is an expectation that records would be created there.

MR. GREENE: Thank you.

You mentioned that the movement from LIS to Feature Group D was just a software change that would need to happen, in your testimony you stated we just merely need to place an order for the software change?

MR. LINSE: Yes.

MR. GREENE: What happens to the calls that are active when that software change takes place?

MR. LINSE: What calls?

MR. GREENE: Well, we have 35,000 trunks, I doubt there is any period during the day in which none of those trunks are being used by anyone.

MR. LINSE: Well, then those trunks wouldn't be basically converted all at once. It would be a project that you would have to set up with Qwest, and Qwest would then manage the migration of those orders such that it doesn't impact the services.

MR. GREENE: Is there a price list for the software changes somewhere that we could get access to?

MR. LINSE: Sure, we could probably set you up with that if you guys wanted to go forward with something like that.

MR. GREENE: Okay, that's all I have.

JUDGE RENDAHL: Okay, any other questions from Level 3?

MR. WILSON: Just a couple of quick ones. On the wholesale switching customers, these are former UNE-P customers, do you have any idea how many lines that represents in Washington?

MR. LINSE: I think about somewhere around 100,000 maybe. I think Bill might either confirm that or not.

MR. EASTON: That's combined res and bus lines.

JUDGE RENDAHL: Combined residence and business lines?

MR. EASTON: Yes.

MR. WILSON: And is this really effectively resale, or is it kind of a hybrid; I guess I don't know what it means --

MR. LINSE: It is the former UNE-P, which is unbundled switching.

MR. WILSON: But do the CLEC's who are doing this, do they get access, do they collect access revenue

off of these?

MR. LINSE: That's my understanding, they do.

JUDGE RENDAHL: And we are talking about QPP? I'm not sure what it is that we're talking about.

MR. LINSE: I believe we are talking about QPP here.

JUDGE RENDAHL: Thank you.

MR. LINSE: That's what I'm talking about.

MR. WILSON: So they keep the access charges but they don't control the telephone numbers, that's I believe what -- is that correct?

MR. LINSE: It's a Qwest switch, therefore Qwest telephone numbers.

MR. WILSON: Okay, I think all the rest of my questions got answered during the discussion.

JUDGE RENDAHL: All right, well, let's move on now to Mr. Easton unless anyone else has any other questions.

Okay, you're on.

MR. EASTON: All right, I think this will probably be relatively brief, we have answered a number of the things that I was going to go over in this incredible presentation. We talked about the differences in billing and record creation capabilities between Feature Group D and LIS, and I would like to

explore that a little bit more here in the next few minutes. Feature Group D does have the capability to appropriately bill for switched access. LIS does not have that capability. In order for Qwest to build in that functionality, it would be very resource intensive to do that.

When this has been pointed out to Level 3, Level 3 says, well, there's really no need to build that in, we can use the system of factors, which is what you were referring to earlier, and Qwest has some problems with the system of factors. Although looking at it, it looks like there's just three factors, you know, you've got a PIU, a PIPU, and a PLU, in fact it gets a little more complicated than that. And the reason it gets a little more complicated is because switched access has a number of components related to it, one of which is distance sensitive transport. So in other words, you pay different rates depending on how long the transport is. So that becomes, if you will, another factor, each trunk group is going to have some sort of distance associated with it. And we talked about having 35,000 trunk groups I believe in the state, and then you've got the PIU, PLU, PIPU, it becomes more complicated than just three factors applying a rate.

So then the question is, you know, what would

it take to mechanize that system, and we're back to the problem we just talked about, that would be pretty resource intensive. We have -- Qwest already has a system that would allow to bill for both local and for Feature Group D, now we're talking about having to build another system to deal with using these factors, so it's a resource issue again. And Qwest estimates it would cost somewhere between $1 Million and $2 Million to implement this system of using these factors. It's not a capability that we have today.

The other problem that Qwest has with the factors is that by their very nature you're dealing with estimates. You're doing traffic studies at some time period in the past, and based on what the traffic flows were at that time, you're estimating that the traffic flows in the future are similar, and that is an estimate. And, you know, how accurate that is I can't tell you, but I can tell you with some certainty that it's not as accurate as the current Qwest system that uses actual traffic as the basis for the billing. So that is the billing issue.

The second issue is the records creation issue. As I mentioned, we pass off records to independents, to other CLEC's, so that they can bill for their portion of the switched access. To the extent

that traffic comes over LIS rather than Feature Group D, Qwest systems don't have the capability to produce those records. Now Level 3 has recognized this, and they have added some new language here, I believe it's in issue 2C, and they say in essence, Qwest, for those kinds of calls that are going to independents or CLEC's, we won't drop that off to you. And I know Mr. Linse has some problems with the language, and, you know, we can address that in the arbitration hearing itself, but there is another problem associated with that, and that's this QPP, which stands for Qwest Platform Plus customers, and these were the former UNE-P customers you probably recall.

Qwest provides switched access records to those customers so that they can bill switched access to the interexchange carriers. Now Level 3 can determine, look, this is a call destined for another CLEC, this is a call destined for another independent, I'm not going to send that to Qwest for them to pass it on, I can avoid the records problem that way. But Level 3 can not determine that, gee, this is a Qwest QPP customer as opposed to just a regular Qwest end user. Both the numbers for those parties are assigned out of the switch, they are Qwest numbers, there's no way short of Qwest providing a table of those numbers, which, you

know, that's privileged information, we would not be able to reveal that, there is no way to disaggregate that traffic from other traffic that's being terminated to Qwest. So we still have the records issue for those roughly 100,000 customers, QPP customers in Qwest.

So again, we've got a billing issue, we've got record issues, and I guess more importantly there's no need to deal with any of those issues. We already have a system in place that lets all types of traffic be combined over a single trunk group, allows Level 3 to recognize the network efficiencies they desire, and lets Qwest continue to use the systems and processes that we have invested in, and I just don't see a reason we need to go on with this proposal.

JUDGE RENDAHL: Okay, well, argument aside which we can do more with at the arbitration hearing, Mr. Williamson, do you have any -- I'm sorry, do you have any further discussion?

MR. EASTON: No, that concludes.

JUDGE RENDAHL: Okay, Mr. Williamson, do you have any questions for Mr. Easton?

MR. WILLIAMSON: No, I don't.

JUDGE RENDAHL: On a technical basis.

MR. WILLIAMSON: Just really quickly, from what I understood you to say, for a number of reasons

the question for mixing traffic comes down to a price, a cost issue. Qwest has a way to do it on Feature Group D, which is more expensive. Level 3 would like to see it on LIS trunks, which is less expensive. Technically there's not an issue with mixing traffic on Feature Group D like Level 3 would like to do, and if you could sell it to them at the same price as LIS, they probably wouldn't have a problem with Feature Group D, is that -- so it really is a cost issue, not a technical issue?

MR. EASTON: Well, it's not a technical network issue, but it is a technical issue in terms of the capabilities of our billing systems and record systems. You're right, it's a cost issue, but not only to Level 3, but it's also a cost issue to Qwest in terms of investing in systems. So, you know, both parties have cost issues with this.

JUDGE RENDAHL: Okay, I don't have any technical questions based on your presentation.

Does Level 3 have any questions for the witness?

MR. WILSON: A couple, Your Honor. To that cost issue, I thought what Mr. Williamson was asking is you could use the methodology that you're currently using for Feature Group D trunks for combined traffic on a LIS trunk; isn't that correct? I mean you just use --

you just turn it on on those trunks, I mean what's the difference?

MR. EASTON: When you say the functionality, what are you referring to?

MR. WILSON: Treat the recording and billing the same way that you do today with a Feature Group D trunk. I mean why not, correct? I mean what am I missing here?

MR. EASTON: Well, it may appear like that on the face of it, but the reality is that we have rather complex systems associated with Feature Group D that do the billing and the record creation. We have a separate system that we use to do the billing for LIS trunks, and it's not just a matter of let's pick this up here and move it over and plug it in. That's not the way billing systems in telephone companies work. It would be nice if it were.

MR. WILSON: Well, I guess I will -- I don't have another question on that.

When did you quit using factors with AT&T Long Distance? Because I know that we did use factors for a number of years.

MR. EASTON: I believe it was in the early 2000's. Now we do still have a PLU factor we use if for some reason we're lacking the information on the call

record to determine jurisdiction. It used to be we used that for billing purposes, now we are using actual traffic flows, comparing the billing or the calling and called number to determine the jurisdiction and apply the appropriate rate.

MR. WILSON: So for approximately four years, four or five years we used factors? Because we started that in approximately '97 I would say.

MR. EASTON: Yes, and that now has been converted. You know, again, it's Qwest's preference whenever possible to bill using actual traffic flows.

MR. WILSON: So I guess I wouldn't understand why then would it take $1 Million to $2 Million to use that system that we have already used?

MR. EASTON: Well, again, we would have to build in all the appropriate logic. You know, I don't know that that system still exists out there. The billing systems have gone through a number of changes in the intervening five years.

MR. WILSON: Okay.

Then a question on --

MR. EASTON: And just let me also answer, you talked about that logic that was agreed to, I believe what you're referring to is what we do allow for all carriers is to combine all traffic over Feature Group D.

We have never built the logic, we never had all that logic built into LIS with factors.

MR. WILSON: Well, I guess I can't understand why the logic would be any different.

MR. EASTON: While the logic itself may not be different, the billing systems themselves are very different. And taking that logic and building it into a billing system takes a fair amount of work.

MR. WILSON: I guess I don't understand that. I mean they're simple ratios, why would it be different from taking one trunk to another? I guess I don't understand that.

MR. EASTON: Well, we probably ought to have you sit down with our IT folks, because it is a fairly complex process. You're dealing with rather large systems, and it's not as easy as just doing a basic program on your computer.

MR. WILSON: If you built the logic into a LIS trunk and made it a Feature Group D trunk, if the price different, is that -- if you built the logic into a -- I mean if you changed the logic for a LIS trunk, if you went through all the cost of the back systems to do it correctly, you built the costs back in, and now you're back to what you already had, which is a Feature Group D trunk, which, you know, before we couldn't

figure out why there was an added cost, now there's cost systems in the back room for billing.

MR. EASTON: You're right, in essence you have ended up recreating the Feature Group D trunk.

MR. WILSON: On the records issue you said that the -- it seemed to me that you said effectively that the routing to your QPP customers is secret from another carrier?

MR. EASTON: No, my analysis would be the only way that Level 3 could avoid terminating calls to QPP customers over LIS would be if we gave you a list of all of the QPP numbers.

MR. WILSON: And what's wrong with that to another carrier? We trade that kind of information all the time.

MR. EASTON: Now I would think that might be proprietary information, we will let our lawyers determine that.

MR. WILSON: Well, when these were UNE-P customers, we certainly had it, because the numbers were all ported, they must have been ported back, but why would these numbers be different now that they're QPP rather than UNE-P numbers? It wasn't secret then.

MR. BROTHERSON: There was no number porting on the UNE-P, because those customers appeared to have

always stayed with Qwest when they bought those unbundled network platforms. They did move to let's say an Eschelon, but to the network it still had to be routed to the Qwest switch, and it still appeared to be a Qwest customer.

MR. WILSON: But the CLEC's were managing their own phone numbers. I know that for a fact. We were getting those ported.

MR. BROTHERSON: You weren't -- where did you port the unbundled switching telephone number?

MR. WILSON: Well, the --

MR. BROTHERSON: It stayed on that switch.

MR. WILSON: Not if it was on somebody else's switch.

MR. BROTHERSON: But we're not talking about --

JUDGE RENDAHL: Mr. Brotherson and Mr. Easton, if Mr. Wilson isn't done, I know you have a response, but you can't speak over him because the court reporter can't take it down.

Mr. Wilson.

MR. WILSON: Well, I guess we have a disagreement there, and the question is --

MR. LINSE: If I may interject a little bit. The whole concept of unbundled switching and wholesale

switching is that it is a Qwest switch, so there would be no -- the only purpose for a port is if you're taking a number from one switch and putting it into another switch. Qwest wholesale switching, we're providing basically the switching functionality including the number to the competitive carrier. And the reason why a competitive carrier comes to Qwest for unbundled switching is because they don't own a switch. So there would be no porting issue associated with a unbundled or wholesale switching type service.

JUDGE RENDAHL: Mr. Brotherson, did you have something else?

MR. BROTHERSON: Not of a technical nature.

JUDGE RENDAHL: Well, then let's withhold that thought then.

Are there any other questions for Mr. Easton?

MR. GREENE: I have a few here.

JUDGE RENDAHL: Mr. Greene.

MR. GREENE: I will try not to use all of the time.

JUDGE RENDAHL: Can you make sure your mike is on.

MR. GREENE: I'm sorry, I turned it off.

JUDGE RENDAHL: And speak into it.

MR. GREENE: In your testimony you talked

about a factor that would be filed by Level 3 on a quarterly basis. Are you now saying that that's not necessary if we were to use Feature Group D trunks?

MR. EASTON: I believe the only reason that Level 3 proposed the factor system was to get around the problem we have with LIS. But no, there would not be a need for the factors that Level 3 is proposing if Level 3 combined all of the traffic over Feature Group D.

MR. GREENE: All right, so just for clarification when I take this back, on page 21 of your testimony on line 18 through 27, we can basically understand that, once you get to that section, that section is not applicable, there's not any need for a factor in the Qwest proposed language?

JUDGE RENDAHL: I'm sorry, which page are you referring to?

MR. GREENE: I'm on the Easton testimony WRE-1T, page 21, line 18.

MR. EASTON: I guess I'm not seeing where you're at here, is this the testimony that was filed August 18th?

MR. GREENE: It's dated August 18th at the top.

MR. EASTON: Okay, and my --

MR. GREENE: Your direct.

MR. EASTON: It's my supplemental direct, and on my page 21 at line 18 is --

MR. GREENE: Let me just read you the top of this, it says Replacement Exhibit WRE-1T, I don't know if that makes a difference.

MR. EASTON: Oh, okay.

JUDGE RENDAHL: Sometimes the pages differ depending on whether you print them off the Internet or you print them off --

MR. EASTON: We would still require the PLU factor. As I mentioned, when we are not able to determine the jurisdiction because there is not sufficient information in the call record, we need to have a PLU that we can use to jurisdictionalize those calls.

MR. GREENE: If we were to convert the trunks to Feature Group D, and outside of the conversion costs, which I'm assuming would be a one time event, but we only used the trunks for local traffic just like we are using them today, would our costs be the same as it is today?

MR. EASTON: Your traffic sensitive remitative use costs should remain the same. I believe the way at least our FCC tariff is set up though, it would not allow ratcheting of the facilities cost

itself. In other words, you wouldn't take the facilities cost and apportion so much of this is TELRIC, so much of this is at the tariffed rate.

MR. GREENE: So what rate would apply for the 35,000 trunks that I have today?

MR. EASTON: It would be the Feature Group D facility rate.

MR. GREENE: And is that an interstate rate, an intrastate rate, can you describe --

MR. EASTON: Well, I was just talking about the FCC tariff, I'm not specifically familiar with the intrastate tariff, and I would have to see whether that allows ratcheting, but it would be the interstate tariff FCC one.

MR. GREENE: Okay, so I would go from local trunks that exchange local traffic, 35,000 of them, to interstate Feature Group D transport costs for all 35,000 trunks?

MR. EASTON: For the facilities cost, that's correct, just as, you know, AT&T does today when they combine all traffic, both local and switched access over Feature Group D.

MR. GREENE: Okay, so it's not just a records thing, you would also look to collect that additional moneys for the transport as well?

MR. EASTON: Well, if you're purchasing Feature Group D out of the FCC tariff, you would be paying the rates that are applicable to that FCC tariff.

MR. GREENE: As you understand the OBF guidelines around, and that's the ordering and billing forum from earlier, guidelines around the exchange of records, is that exchange one way?

MR. EASTON: No, I believe, and Mr. Linse may be better able to answer that, I believe that applies for carriers exchanging records either way.

MR. GREENE: So if Level 3 generated all the 110101 records that were necessary for these calls because our systems are capable, we could just simply exchange them to you because it's two way, and you don't need to spend any upgrade costs; would that be a fair statement?

MR. EASTON: We would have to discuss how that was done, and I would need to go back and talk to some folks and see how something like that could be implemented.

MR. GREENE: But if the exchange of records is two ways, you would still need to go implement something, you didn't conform your systems to the standard of two-way exchange, you only conformed them to one-way exchange?

JUDGE RENDAHL: Mr. Brotherson.

MR. BROTHERSON: I believe we have end offices that home for example on independent company tandems, and they provide us access records just as we provide independent telephone companies access records. Are you talking about creating an access record and providing us a traditional jointly provided switched access record?

MR. GREENE: Correct, and very specifically an 110101 record, which I understand is the EMI electronic message interface standard for the exchange of access record traffic.

MR. BROTHERSON: I think we moved into the realm of negotiations now, Mack, instead of language.

MR. GREENE: No, I'm just trying to understand the capability.

MR. LINSE: If I may add, it makes a difference I think if we look at what traffic we are talking about. Traffic that, as Larry explained, that where Qwest's switch subtends their tandem, they provide Qwest with a record based on the traffic terminating to Qwest's network. Traffic that enters Qwest's network terminating to another carrier, we would have that responsibility to provide that, to make the recordings, and our systems I believe are set up specifically for

capturing that and then passing those records along, not necessarily someone else, some other carrier providing that function, that tandem recording function, on Qwest's behalf. There may be some problems there. I can't, until we go in and look at exactly all the different scenarios on how records get changed, I can't really say exactly what the impact to our network would be on that.

JUDGE RENDAHL: Okay, well, I'm not sure what negotiation sessions you have set up, but it sounds like there are a few issues that have come up today that are ripe for discussion, this being one of them.

Are there any other technical questions based on Mr. Easton's discussion?

MR. GREENE: I couldn't get it out in five minutes, so I will defer it.

MR. EASTON: If he can't get it out, I can't answer it in five minutes either.

JUDGE RENDAHL: Okay, is there anything else of a technical nature we need to talk about today?

I have a quick procedural item for the counsel. We talked about and added a couple of new exhibits to the list. I put this -- I'm holding up an exhibit list that I have drafted, and I'm going to circulate it to all of you so that you see what I'm

working off of, but there are a number of exhibits that either were discussed today or handed out today or revised today that I think it might be useful to have you all resubmit. And I'm just talking about an original and two copies. And because we're dealing with color copies and not black and white on many of these, if you can submit the Power Point slides with the identifier in the upper right-hand corner of the KLW-3 with the docket number and that type of thing. The two documents we printed off here on the white board we won't need to do that. You all have copies of that, and I have the original that came off. If you can resubmit MDG-2 as no longer confidential, because I have it as confidential, if you can resubmit it non-confidential, and I understand you will be submitting a correction of MDG-3. Mr. Cecil, if you can look at the MG-5 series and determine which of those is confidential and which of those is not. We would prefer that the entire document not be identified as confidential if just a portion of it is. And then if you can submit the MG-7 and MG-8, MD-8 was the ATIS document, but if you can resubmit it with the MG-8 on it with the docket number, et cetera, that would be helpful. And likewise for Qwest, if you can resubmit the LBB-2, 4, and 5, the version that you submitted today with the correct

numbering on it, that would be helpful, and also LBB-6 through 8 with the identifier on the right-hand corner, then I think we will have it in records center.

MR. SMITH: Do we need to formally file those with the --

JUDGE RENDAHL: Formally file those with the records center. They hold the original, and then that becomes the original record.

MR. SMITH: All right.

JUDGE RENDAHL: So if you all can do that, that would be helpful.

I have also had a request for the joint issues list, and I'm not sure who -- did Level 3 submit that?

MR. CECIL: We submitted it, we had exchanged it, or did we exchange the one in Washington?

JUDGE RENDAHL: Let's be off the record for a moment.

(Discussion off the record.)

JUDGE RENDAHL: I will E-mail counsel as to which version of the joint disputed issues list we need in Word format now.

On October 19th when you file documents in preparation for the hearing, I would like an updated contract language with the disputed language underlined,

highlighted, however you distinguish it in the contract.

MR. SMITH: So a new contract?

JUDGE RENDAHL: The version that you are working on.

MR. SMITH: All right.

JUDGE RENDAHL: So the latest contract version so when we are in hearing we are talking about what is current.

MR. SMITH: Right.

JUDGE RENDAHL: And I would also like the joint disputed issues list with the contracting language and the positions of the parties. And if you can file those both in PDF and Word format, that will make it easier for us to work with.

MR. SMITH: We can work together to make that happen.

JUDGE RENDAHL: We appreciate it.

All right, is there anything else we need to talk about today?

Thank you very much, this has been helpful, and we're just done at 5:00, so we will be off the record, thank you very much.

(Technical conference adjourned at 5:00 p.m.)