BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

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| In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination. | Docket No. UT-003013<br>Volume XXVI<br>Pages 3214-3299 |

A hearing in the above matter was held on April 6, 2001, at 9:34 a.m., at 1300 Evergreen Park Drive Southwest, Olympia, Washington, before Administrative Law Judge LAWRENCE BERG, Chairwoman MARILYN SHOWALTER and Commissioner RICHARD HEMSTAD.

The parties were present as follows:

QWEST, by Lisa A. Anderl, Attorney at Law, 1600 Seventh Avenue, Room 3206, Seattle, Washington 98191, and John M. Devaney, Attorney at Law, Perkins Coie, LLP, 607 Fourteenth Street, N.W., Washington, D.C. 20005-1624.

THE COMMISSION, by Greg Trautman, Assistant Attorney General, 1400 S. Evergreen Park Drive, S.W., P.O. Box 40128, Olympia, Washington 98504-0128.

XO, ELECTRIC LIGHTWAVE, INC., ATG, FOCAL, AT&T and McLEOD, by Gregory J. Kopta, Attorney at Law, Davis, Wright, Tremaine, LLP, 2600 Century Square, 1501 Fourth Avenue, Seattle, Washington 98101-1688.

VERIZON, by Jennifer McClellan, W. Jeffery Edwards, and Meredith Miles, Attorneys at Law, Hunton & Williams, 951 E. Byrd Street, Richmond, Virginia, 23219.

WORLDCOM, INC., by Ann E. Hopfenbeck, Attorney at Law, 707 17th Street, Suite 3600, Denver, Colorado, 80202.

Barbara L. Nelson, CCR
Court Reporter

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JUDGE BERG: We'll be on the record. This is a continued hearing in Docket Number UT-003013. Today's date is April 6th, 2001.

At this point in time, I'm going to read into the record a series of exhibits which have been identified and marked in this proceeding. The response testimony of Mark Argenbright, A-r-g-e-n-b-r-i-g-h-t, (MEA-1T), is identified as Exhibit T-1200. Cross response testimony, (MEA-2T), is marked as Exhibit T-1201. WorldCom's response to Qwest's DR Number 10 is marked as Exhibit 1202, C-1202. WorldCom's response to Qwest's Data Request Number 12 is Exhibit 1203. WorldCom's response to Qwest's DR Number 14 is 1204. WorldCom's response to Qwest's DR 18 is 1205.

At this time, I'll also identify exhibits to be used during the testimony of Michael Starkey. Part B response testimony of Michael Starkey, dated 10/23/2000, is marked as Exhibit T-1220. Michael Starkey professional information schedule, (MTS-1), is 1221. And rebuttal testimony, (MTS-2), is 1222. Be off the record.

(Recess taken.)

JUDGE BERG: Back on the record. Mr. Argenbright. Please stand, raise your right hand.

Whereupon,

MARK E. ARGENBRIGHT,

having been first duly sworn, was called as a witness herein and was examined and testified as follows:

JUDGE BERG: Thank you, sir.

D I R E C T E X A M I N A T I O N

BY MS. HOPFENBECK:

Q. Mr. Argenbright, will you state your full name for the record, please?

A. Mark E. Argenbright.

Q. Mr. Argenbright, do you have before you what has been marked for identification as T-1200, the response testimony of Mark E. Argenbright, and Exhibit T-1201, cross response testimony of Mark E. Argenbright?

A. Yes, I do.

Q. If I were to ask you the questions that are contained in those documents today, would your answers be the same?

A. Yes.

MS. HOPFENBECK: I move the admission of Exhibits T-1200 and T-1201.

JUDGE BERG: Hearing no objection, those exhibits are admitted into the record. And at this

time, is the witness --
MS. HOPFENBECK: Yes.
JUDGE BERG: -- available for cross-examination?
MS. HOPFENBECK: He is.
JUDGE BERG: All right. Mr. Devaney.
MR. DEVANEY: Thank you, Your Honor.

C R O S S - E X A M I N A T I O N

BY MR. DEVANEY:

Q. Good morning, Mr. Argenbright.
A. Good morning.
Q. My name is John Devaney, I represent Qwest. Following up on Judge Berg's comment, I should reveal that I have a 2:30 flight, but I have a backup for tomorrow morning.
A. Okay.
Q. Which I'm hoping not to use.
A. I'm hoping you don't use it, as well.
Q. I just have a few areas of questioning for you. I want to begin with a few principles concerning the setting of rates and see if we can't come to an agreement on a principle or two. Do you agree with the general principle that rates that a carrier charges for elements and services ought to be

based on costs?
A. Yes, in the scheme of setting rates for reciprocal compensation?
Q. Yes.
A. Yes, on -- yes, I'll give you that.
Q. I know where you're going, and I'll get there.
A. Okay.
Q. Would you agree that if rates exceed the costs a carrier incurs to handle Internet traffic, for example, to switch Internet traffic, that the result could be distorted economic incentives?
A. In general, that may be the case, although it would not be specific to Internet traffic to the extent a rate is incorrect in terms of the rate for terminating traffic. Yes, there is that possibility. Not a matter of fact that it would be, but yeah.
Q. So the possibility exists that if you have a rate that exceeds costs, a carrier could have incentive to sell or specialize, if you will, in a service or an element that it otherwise would not specialize in; is that one possibility?
A. That could be a component of a carrier's decision.
Q. And you could result in oversupply of a

particular service or product; is that correct?
A. I suppose that is possible.
Q. Would you agree that rates that exceed costs also can result in uneconomic subsidies? Is that a possibility?
A. I -- yeah, the word subsidy, I don't know the technical definition of what a subsidy is. I mean, there can be a disparity between the -- an overcharge situation perhaps could exist.
Q. Okay. Could you turn to pages 15 and 16 of your response testimony?
A. Okay.
Q. I'm focusing on the bottom of page 15, which on my copy of your testimony is line 21. And the sentence that carries over to the next page reads, The appropriate level of intercarrier compensation must continue to be based on the forward-looking economic cost established for Qwest and Verizon; do you see that?
A. I do.
Q. Do you agree that the costs that Qwest and Verizon incur to terminate traffic could, in fact, be different from costs that WorldCom incurs to switch Internet traffic?
A. I'm sorry. Are you saying -- are you

asking whether or not the costs for Qwest and Verizon for transporting and terminating Internet traffic could be different than the costs for WorldCom to transport and terminate Internet traffic?

Q. Let me rephrase it slightly. This Commission has ordered termination rates for both Qwest and Verizon. Would you agree that the rates the Commission has ordered for Qwest and Verizon could indeed be different from the costs that WorldCom incurs to switch Internet traffic?

A. If you look at a fairly micro level, at a cost per -- or a call per call basis, that is a possibility. But I understand that mechanism, that being the cost that WorldCom, in this instance, would charge being based on the costs associated with Qwest and Verizon is the mechanism that's been set up by the FCC.

Q. For example, would you agree that because of the longer duration of Internet calls, that the per-minute call setup costs for Internet calls tends to be overstated using -- I'm sorry. Let me start the question again.

Would you agree that with Internet calls, as compared to voice calls, that the cost of switching the Internet calls tends to be lower

because of longer duration and that effect on call setup costs?
A. I would agree that any particular call with long holding times may well have an impact on the cost calculation. I don't think it's necessarily just Internet traffic.
Q. Right. But if you focus on calls of long duration -- let's leave aside the Internet traffic for the moment -- you would agree the overall effect is that longer duration calls tend to be less costly because of lower per-minute setup costs; is that correct?
A. Well, I'm not -- I have not analyzed the specific costs associated with a -- you know, a one-minute call versus an hour-long call, so I can't say -- get down to the difference between, you know, two different lengths of calls. I guess what I would say is if the consideration of the duration of a call is consistent with getting to the correct price, then it should be considered.
Q. Okay. I'm not sure. Are you able to answer my question, though, as to whether you agree that because longer duration calls have lower setup costs than voice calls of shorter duration, that the overall costs are less for the longer duration calls?

A. Longer duration calls compared to shorter duration calls, just at that level, I could agree.

Q. Okay. And if you have a CLEC that specializes in handling Internet calls that tend to be of longer duration, would you agree with me that the existing rates, termination rates in Washington for Qwest and Verizon could result in overcompensation to that type of CLEC?

A. To the extent -- the fact that a CLEC has a preponderance or several ISP customers, I don't think, on average, would indicate that there's absolutely an overcompensation going on. I mean, a CLEC has a network. To the extent it has ISP customers, to focus just on that particular type of traffic, you know, ignores the rest of whatever network may be in place.

Q. But I think the way I phrased my question is if you have a CLEC that predominantly focuses on ISPs or even other customers with long duration calls, would you agree that the existing rates for Qwest and Verizon for termination here in Washington could result in overcompensation for that type of CLEC?

A. That is possible. It would be dependent on the extent of the network that that CLEC had.

Q. Okay. And if that were to occur, the types of distorted economic incentives you and I talked about a few minutes ago could result; is that correct?

A. Were we specific on the types of distortion or did we just talk about that generally? Can you refresh my memory?

Q. Well, my memory was that we talked about CLECs specializing in one type of service, CLECs producing potential oversupply of one type of good or service, that type of economic incentive.

A. Right. Again, I think that could be a component of the decisions that a CLEC may make in providing service to customers or the market that they do find. I mean, I think there's other variables, as well.

Q. Okay. Would you ultimately agree with me that to avoid the risk of those types of distorted incentives, that the safest course would be to ensure that the rate that exists for CLECs is based on the costs the CLECs incur?

A. No, I would not agree. I think the rate that the CLEC is entitled to is to be based on the costs that the ILEC has.

Q. Even if the ILEC's costs are different from

those of the CLECs?
A. Yes.
Q. Is that your position?
A. Yes.
Q. Okay.
A. I mean, that is the point of -- you know, if you get the rate where it needs to be, as close to cost as possible, then you address that problem, but I don't -- if you're proposing that the solution is to look at -- the CLEC should be compensated based on their costs, I don't agree with that.
Q. Okay. So just to be clear, it's your position and WorldCom's position that even if the ILECs' termination rate exceeds the costs that WorldCom will incur to switch Internet traffic, that WorldCom nevertheless should be able to use Qwest's and Verizon's rates; is that right?
A. Yes, because WorldCom switches more than just Internet traffic. And the rate, reciprocal compensation, it is our position that it should apply to all traffic, not -- ISP traffic should not be singled out as a particular type of traffic with different rates. So I mean, there's more than just Internet traffic being switched, and -- go ahead.
Q. Would you look at page 20 of your

testimony, please. I'm focusing on line four. You state there, As I stated earlier, changes in the nature and volume of originated traffic on Qwest's network could create a mismatch between retail local service revenues and network costs (again, regardless of CLEC entry).

Let me ask you first, do you agree that increases in network usage caused by Internet calls have increased Qwest's network costs here in Washington and elsewhere?

A. I don't know those specific factors, but I know from our network that traffic does have an impact in terms of a total volume of traffic, and so, yeah, I would say that virtually all carriers that have those kind of customers have network investment.

Q. And in WorldCom's experience, how has increased Internet usage caused WorldCom to have to beef up its network?

A. Again, I can't answer that. I mean, we do not look at ISP traffic separately from any other level of traffic. So our network people and our planning people are -- they build a network to handle a traffic load.

Q. Would you agree that increases in Internet usage have caused carriers like WorldCom and Qwest to

increase their investments in switching and interoffice trunking capabilities, for example?
A. Yes, I would agree those types of costs do get impacted, those investments are made.
Q. Has that effect been most pronounced within the last, say, three or four years, in your view?
A. Yeah, with the rise in Internet usage, yeah.
Q. Okay.
A. I agree.
Q. Mr. Argenbright, there has been discussion in this proceeding about a possible dual rate structure for Internet traffic. Are you familiar with that discussion?
A. Yeah, the setup and a per-minute charge, yes.
Q. Right. And my question for you relates to a concern that some parties have raised about the billing and administrative issues that could result from a dual rate structure. And specifically what I want to ask you is whether you have any concerns of that sort about a dual rate structure?
A. From WorldCom's perspective, we bill in that environment now in other jurisdictions that have adopted that type of structure. I understand other

carriers do have that, but from WorldCom's perspective, we bill in that environment today.
Q. Okay. Where is that done by WorldCom today?
A. I believe Texas is one of the jurisdictions. I don't have the whole laundry list, though.
Q. And is that -- is WorldCom's billing pursuant to that structure done in response to Commission orders?
A. Do you mean in terms of a Commission saying you will bill this way?
Q. Yes.
A. I don't believe so. To my best knowledge, it's -- that was the rate that was developed and we develop the systems to build that way. I don't think we were mandated to actually create the systems.
Q. Do you have any types of -- sorry. Do you have any sense of the magnitude of the system's costs that WorldCom incurred to make that type of adjustment to its billing system?
A. No, I don't.
Q. Do you have any sense of the time period that it took WorldCom to develop and implement that change to its systems?

A. There I don't, either.
Q. Okay. Mr. Argenbright, do you agree with the general proposition that traffic with higher load rates will tend to be less costly to switch than traffic with lower load ratios?
A. I think the load ratios is actually a term you'd associate with a switch, as opposed to the actual traffic. And load ratio may have an impact, but I think you end up looking -- I mean, each switch is going to have its particular load ratio at a particular point in time, and if you go down that path, I think you're looking at, you know, you never -- when the market changes and customers shift around and, you know, or move, and engineering decisions are made to trunk traffic a different way, I mean, that's a factor that changes, I would suspect, periodically, if not regularly. So what you might end up with is more of a rate structure with, you know, down to a per switch level, which now we are talking administrative problems.
Q. Are you aware of any analyses that WorldCom has performed or that you have seen concerning load ratios for voice traffic versus Internet traffic?
A. No, as I've said, WorldCom does not -- we don't distinguish among those traffic types, and I

have not seen other studies, either.
Q. You mentioned that WorldCom does not distinguish between those traffic types. If WorldCom desired to or were ordered to identify Internet traffic that it handles, does WorldCom have the information available to it to be able to do that?
A. Not as it exists today. I mean, there's no -- these systems do not identify -- I mean, your first way to look at it would be, well, what are my ISP customers. We don't have that kind of indicator in our systems to know an ISP customer from any other type of business customer.
In terms of the network itself, the same network is used to carry all types of traffic, so you'd have to essentially engineer a separate network, would be my suspicion, if you were to look at -- try to isolate that particular type of traffic. It would be -- I mean, you'd have to get down to a very low level of provisioning to --
Q. Would you agree that by focusing on the names of customers, to some extent, you'd be able to tell who the ISPs are?
A. Yeah, I mean, you could make an approximation based on the name of a customer, but you don't know -- I mean, we sell multitudes of

services to ISPs, just like any other business customer, so there may be additional services that are above and beyond just those that are directed for transporting Internet traffic.

Q. Would you agree that, in addition to focusing on the names, you could also look at traffic characteristics and draw some reasonable conclusions based on traffic characteristics about who the ISPs are?

A. You could make approximations. It would not be perfect.

Q. Hypothetically, if WorldCom was ordered to identify Internet traffic and you had to be as creative as possible to think of how you would do that, is there anything else you would do, other than looking at the names of customers, looking at traffic characteristics, is there any other information available to WorldCom that would let it engage in that type of analysis?

A. Those are the only characteristics that I'm aware of. I would not know of any others, no.

Q. Mr. Argenbright, would you turn to page 22 of your testimony, please.

A. Okay.

Q. And there's a table on that page that

depicts an analysis of average monthly ILEC reciprocal compensation expense per access line. Do you see that?
A. I do.
Q. And I'd like to ask you a question or two about your analysis. First of all, you agree, of course, that a key element to your analysis is what appears in line number one of the table, which is average number of minutes of Internet usage per line per month?
A. Correct.
Q. And you've derived the figure of 581 from the Neilsen Net Ratings Report that you referred to on page 21; is that correct?
A. That is correct.
Q. And that report concludes that the average online time for all Internet users was nine hours, 41 minutes per month for July 2000; correct?
A. Correct.
Q. You know what, my first question about that is is it nine hours, 41 minutes per month per home, or per user within a home, do you know?
A. I can only go by what the report said. I would presume, you know, at home, on a per-home basis, but --

Q. You're not sure of that?
A. I'm not sure one way or the other.
Q. So if, in fact, that's nine hours, 41 minutes per user, then your 581 number would be substantially higher, wouldn't it?
A. Yeah, if there were more users that were able to get beyond the nine hours on that same access line.
Q. Okay. And if that were the case, then obviously your bottom line conclusion of 76 cents per line would be substantially different, wouldn't it?
A. It could be.
Q. In the testimony of Verizon's witness, Mr. Trimble, he presents several different reports that differ from the Neilsen Net Ratings Report of how much average Internet use there is. Have you reviewed Mr. Trimble's reports that he presents?
A. I have not reviewed those, no.
Q. Okay. Well, he presents three or four different reports that present essentially a range of Internet use that is approximately anywhere from 90 minutes per day to something higher than that, up in the range of I think about 120 minutes per day. My question for you is whether you agree that there are a number of reports and studies out there that

conclude Internet use is substantially higher than what the Neilsen Net Ratings Report concludes?
A. I would agree there's probably other studies out there. I don't -- I don't know what they contain, so I can't say whether or not they're substantially higher or lower. I just know this is an independent study that we were able to come across and used it for this simple calculation.
Q. Did you look at any other studies?
A. I did not, no.
Q. Mr. Argenbright, the last thing I would like to do is have you verify some data request responses that WorldCom provided --
A. Sure.
Q. -- in this proceeding. Do you have those with you?
A. I do.
Q. And I'm first going to ask you to take a look at Exhibit 1202, which is WorldCom's response to Qwest Data Request Number 10. Do you have that?
A. Yes, I do.
Q. The data request reads, State the volume of traffic in minutes per day, week and month WorldCom has, A, received from, and B, sent to Qwest in Washington over the last 24 months. And attached to

the response is a confidential document consisting of two pages. I'm not going to ask you about the numbers in the document, but I do want to ask you to explain, if you would, what each document represents. So if you could turn to the first one?

A. Right. The first one is --

Q. I'm sorry, just for the record, I want to make sure that people who read this understand what we're talking about. The first document is titled WorldCom Terminations from Qwest - Washington. So with that, would you please explain what these figures represent?

A. Yes, this was in response to Question A, or Subpart A of Data Request Number 10, and provides a monthly summary of traffic minutes that were received, that Qwest sent to the two WorldCom companies for termination, transport and termination during those particular months.

Q. I see. So the headings, there's one heading that appears to be MGIM. What does that stand for?

A. MCIM. MCImetro.

Q. Right, okay.

A. Okay.

Q. And then, would you explain for me the next

heading, or identify that for me?
A. It's WorldCom usage.
Q. Okay. So those are the two WorldCom entities to whom Qwest is delivering traffic in Washington; is that right?
A. That is correct.
Q. Okay. And then would you explain the next page, which is titled Qwest's Local Interconnect Billed Minutes, State of Washington, June 2000 Through January 2001?
A. Right, this is a summary of the billing accounts that are essentially the invoices that were rendered from Qwest to MCI and the Legacy MFS, is how we refer to our WorldCom -- other WorldCom company, that were rendered to those companies for traffic that those two entities sent to Qwest for termination during that -- again, we only keep them for six months, so it's a six-month time period.
Q. Okay. If you'd turn next to Exhibit 1203, which is WorldCom's response to Qwest Data Request Number 12, and if you could please just verify the accuracy of the answer that's provided in response to that request?
A. Yes, the request is for us to provide any costs, analysis, studies that have been done specific

to ISP traffic. And the response is that we don't identify those costs specifically apart from all the other traffic.

Q. Okay. So it's fair to say that WorldCom has not conducted a study of any kind of the costs it incurs to handle Internet traffic?

A. I am not aware of such a study, no.

Q. And so just to be clear, you've never seen such a study?

A. I have not, no.

Q. Okay. And then, Data Request 14, which is Exhibit 1204, states, Please state WorldCom's understanding of the average hold times for voice calls and Internet calls and produce any analyses, studies, or data that reflect or relate to the average hold times of these types of calls.

WorldCom's response is, As indicated in response to Data Request Number 13, no such studies were performed, but WorldCom generally believes that Internet calls experience a longer than average duration than non-Internet calls. Is that response accurate?

A. That is correct, yes.

Q. And what is your understanding of the average length of an Internet call? Do you have an

understanding?
A. Yeah, I mean, just -- I think, at least in my mind, kind of an industry standard is in the 20-minute range. I mean, I've seen, you know, 15 to 20 to some a bit higher, but --
Q. Some in the 30-minute range, also?
A. Yes, yes. So I mean, as a walking around number, probably around 20.
Q. Okay. And then, finally, Data Request Number 18, which is Exhibit 1205, reads, Please state whether WorldCom currently has any residential customers in Washington. The response is, Currently WorldCom has no local residential customers in the state of Washington. Is that response accurate?
A. At this point in time, yes.
MR. DEVANEY: Okay. That's all I have. Thanks for your time.
THE WITNESS: Thank you.
MR. DEVANEY: I would like to introduce 1202 through 1205 into the record.
MS. HOPFENBECK: No objection.
JUDGE BERG: All right. Exhibits 1202-C, 1202, and 1203 through 1205 are admitted.
MR. DEVANEY: Thank you.
JUDGE BERG: Ms. Miles.

C R O S S - E X A M I N A T I O N

BY MS. MILES:

Q. Hi. I'm Meredith Miles, for Verizon. And I just have one question for you.

A. Okay.

Q. If you could refer to your response testimony, which is Exhibit T-1200.

A. Mm-hmm.

Q. At page 22. I think you were just there, where your chart is?

A. Yes.

Q. On the bottom, the very last sentence on that page, where it says, Based on this, the above estimated impact is probably overstated by 50 percent, could you just explain that conclusion?

A. Yeah. The point I'm trying to make with that statement is that when we put this together, I mean, the Neilsen study is a total of whatever they captured for the 581 minutes. This calculation presumes that all of that traffic is carried by a CLEC, and so the -- there is reciprocal compensation, as opposed to the ILECs across the country that would be involved, as opposed to them actually experiencing their own network costs.

Q. And so that 50 percent number, you chose that why?
A. Just as -- I mean, we know that competition for ISPs is exactly that. There is competition and we compete with other CLECs and we compete with Verizon and Qwest, et cetera, and so we don't believe we've got the entire market share. So that 50 percent is a guess on my part. I don't have a study to support that. It could be different. It could be different either way.
Q. So it basically assumes that ILECs are 50 percent of ISPs; is that correct?
A. This calculation?
Q. This statement?
A. I'm sorry, I --
Q. Your selection of 50 percent is basically an assumption that ILECs serve 50 percent of ISPs?
A. Of the traffic.
Q. Of the traffic. Okay. Just one moment. Let me confer.
A. That is not -- I've got to make sure I'm clear.
Q. Okay.
A. That assumption, I'm just pointing out that this calculation does not presume -- it presumes that

the ILECs do not carry any of the ISP traffic. And so then I say that, you know, that's a wrong -- I identify that as a wrong assumption and, you know, it may be, you know -- it's certainly different than us carrying 100 percent of it, I speculate.

Q. I was just kind of pointing out that you chose that 50 percent kind of without any basis; is that right?

A. Yeah, other -- yeah, that's fair.

MS. MILES: Okay. Let me confer one second, if that's okay. That's all I have.

THE WITNESS: Thank you.

JUDGE BERG: Mr. Trautman.

C R O S S - E X A M I N A T I O N

BY MR. TRAUTMAN:

Q. Good morning, Mr. Argenbright.

A. Good morning.

Q. I'm Greg Trautman, Assistant Attorney General for the Commission Staff. In your testimony, you've identified some concerns with a rate structure based on a load factor. Before getting to the specifics on that, could you indicate whether you agree or disagree with Dr. Blackmon's testimony that the cost per minute will decrease as the load factor

of the switch increases?
A. On a per-switch basis, that seems logical.
Q. So you would agree with that?
A. Not on a network -- on an average network view, I don't know -- I don't know that that applies. I don't think it does, is my point. On a particular switch, if the load factor is at, you know, high and flat, then, yeah, there may be some efficiencies there.
Q. So if you -- for instance, if you had a switch capable of handling 10,000 calls simultaneously, if that switch were used 24 hours a day, seven days a week, would the cost of that -- would the cost per minute be lower than if the switch were used only one hour per week?
A. For that switch, if it's configured at the same level in both of those examples; is that your question?
Q. Yes.
A. Yeah, for that switch.
Q. If you could turn to your cross response testimony, which has been marked as T-1201.
A. Yes.
Q. And I'm looking at the lower half of that, page three. This is where you testify concerning the

load factors. And you state -- I don't have line numbers on mine, but you state, The use of load factors in setting prices will be problematic for a variety of reasons. First, while it may be possible to calculate the load factor for a particular switch at a particular point in time, in order to take the next step and utilize the load factor to establish prices, you would need to assume the demand is not only measurable, but steady over time.

You state here that it may be possible to calculate a load factor for a particular switch at a particular time. Why are you uncertain about that and what's the source of the uncertainty?

A. That's probably a wording, just a poor choice of words on my part. At a snapshot in time, yeah, you can see how a switch is configured and you can know how much traffic is running through it. So it's not -- I didn't mean to imply that it couldn't be done.

Q. Are you assuming that a single price would be set based on the load factor calculation?

A. A single price for recip. comp. generally, or just a load factor rate?

Q. Well, okay. Assume, for example, that the Commission were to establish a schedule of prices

based on load factor, so that the price varied with the actual load factor of the switch. Would you have the same concerns?
A. Yeah, I think it gets to, one, the fact that you've got a per-switch rate, essentially, because it's going to vary by switch, and then it's probably only as good as the point in time in which you do the calculation. As networks change and customers move, characteristics, you know, on a particular switch are going to change.
Q. You state that one would need to assume that the demand is not only measurable, but steady over time. If the price were based on the actual load factor each month, then you wouldn't need to assume that the demand were steady over time, would you?
A. Yeah, if you took about to measure each switch on a rather periodic basis, yeah, you're taking away the problem that comes with that.
Q. And have you provided any evidence that demonstrates that the load factor varies over time?
A. I have not, no.
Q. Turning to the top of page four of the same testimony, you state that, Further, WorldCom questions whether it is possible to discern the costs

attributable to a particular switch in Washington, as ILECs typically purchase multiple switches at one time for deployment throughout their region. It's not entirely clear. Are you saying that prices should be based on the cost of each individual switch or should not be based on individual costs?

A. No, I'm sorry. I would say that prices should be set on the basis of the average performance of a particular network in, in this case, Washington, and the fact that there's regional buying power involved kind of distorts the level of investment when you try and look at a particular state like Washington.

Q. So would you generally agree that the use of long run incremental cost methods means that the prices won't be based on the actual cost of each individual switch, but instead on the forward looking cost of the switch that would most efficiently meet the demand?

A. Of the switches involved in the network that would meet the demand.

Q. In the next paragraph, you state, Finally, it would be an administrative burden to manage, from a billing and auditing perspective, the multitude of rates that would result from such an analysis.

Does this testimony assume that there's a different price for each switch and that the price varies from time to time with changes in the switch's load factor?

A. That would be the concern, yes.

Q. Okay. I believe you stated that you agreed with Dr. Blackmon's testimony that the cost per minute is lower on a switch with a high load factor than on a switch with a low load factor; is that correct?

A. That -- on a particular switch, that -- I would agree with that, yes.

Q. Okay. In that event, how would you propose that the Commission avoid overcompensating the terminating carrier in situations where there is a very high load factor?

A. A very high load factor within -- I mean, first, we're presuming that the traffic is flowing from the ILEC to the CLEC, and the concern is whether or not a load factor on the ILEC's network is not being represented in the rate that is developed? I'm sorry.

Q. Regardless of which way the traffic is flowing, if you have a high load factor on the terminating switch, how do you avoid

overcompensation?
A. Well, again, I think the -- it does make a difference which way the traffic is flowing. If the traffic is -- the rate should be based on the costs that the ILEC incurs in their network, the forward-looking economic costs. To the extent the ILECs demonstrate that load factors are an issue to consider, the concern I'm expressing here is that to isolate a particular switch, we end up with the administrative problems and the changes, et cetera.

Now, I don't think it matters whether or not -- I mean, the CLECs should not have a burden to prove load factors on its switch, if that's where we're going. And I'm sorry, I'm still not getting to your question. Can you try one more time?

Q. Are you able to answer -- well, how would you avoid overcompensating the terminating carrier where there is a high load factor on the switch if you agree with the basic point that the cost per minute on that switch is lower if it has a very high load factor?

A. On a per-switch basis, I don't know how you would avoid it. I think you avoid it by looking at the total network, or at least you still don't avoid it, but it is, you know, within an average structure,

your -- I mean, it gets smoothed out, for lack of a better word, I guess.
Q. So if it were smoothed out in that manner, would some CLECs be paid too much money while others would not be paid enough?
A. Yeah, I guess that could be an outcome on -- you know, again, depending on the particular traffic you're looking at and the switch involved.
Q. If you could turn to page five of your testimony. And at the bottom of the page, this is where you have testimony concerning the tandem rate and the end office rates. And I'm looking at the paragraph at the bottom of the page. And I believe essentially you're stating that there are two tandems on the network. There is the CLEC's and the ILEC's tandem; is that correct?
A. Yes, I mean, that's one way to look at it.
Q. When traffic originates on the CLEC network and passes through the ILEC's tandem, the ILEC is entitled to compensation for the use of that tandem; is that correct?
A. That is correct.
Q. And if the traffic doesn't pass through that ILEC tandem, should the CLEC have to pay for the use of that tandem?

A. That it's delivered directly to an end office, from a CLEC to the ILEC? No, the end office rate would apply.

Q. At the top of the next page, page six, when you refer to traffic on the CLEC switch, the first two lines, are you referring to a situation in which the CLEC is the terminating carrier?

A. Yes.

Q. And looking at the next paragraph on the same page, page six, the last sentence, you state, Were Qwest to look at terminating the same traffic on its own network over the geographic area covered by the CLEC network and to various and diverse locations on that network, installation of a multitude of direct trunks may well not be justified. It's not your testimony that direct trunking would never be justified, is it?

A. No, it is not, but it is not an analysis, you know -- the determination as to whether direct trunking were appropriate would involve looking at a much larger network than just the single CLEC switch in terms of direct trunking.

Q. So your testimony appears to be that the CLEC often delivers traffic that terminates from the ILEC to a wide variety of points across the network.

If there were a situation where all of the traffic being terminated on a CLEC went to a single switch and the ILEC directly trunked to that switch, is there any reason to pay the CLEC at the tandem rate?

A. Yes. I mean, CLECs typically use one or a few switches, and that is not indicative of the transport facilities that are in place that are used to carry that traffic. I mean, that direct trunk can exist between the ILEC's end office and the CLEC's switch. If we're talking about traffic being sent to the CLEC for termination, once it gets to those interconnection trunks and is handed off to the CLEC, there's a transport network, there's interconnection -- I'm sorry, collocation spaces out on this fiber transport network, there's on net building. I mean, there's a network that covers a geographic territory that is fairly substantial that, were it not in place, the ILEC would be looking at, you know, tandems and end offices being involved.

Q. Right, okay. But in the situation I described, if you have a circumstance where a large volume of traffic is originating at one switch and terminating in another switch in the same local area, okay, would you agree that if both the switches were owned by the same ILEC, that it would use direct

trunking to connect the two end offices?
A. Yes, they would direct trunk and deliver that traffic to the limited geographic area that terminating end office served.
Q. So that if the ILEC could show that it would use direct trunking in that situation, then isn't it correct that the appropriate rate for the termination of that traffic is the end office rate?
A. Yeah, I -- the problem with that is it ignores -- again, we're moving away from an average look at networks, and at that point, you're carving up just a particular -- I mean, you would start looking at particular, I guess, end users in the case of a CLEC and where they are and would the ILEC use a direct trunk to the end office that would serve that customer, as opposed to the network that the CLEC uses.
Q. And on the last paragraph of your testimony, it starts at the bottom of page six and carries on through page seven. Here you have an example where you explain why WorldCom should receive the tandem rate, even though Qwest might direct trunk from its Seattle Main end office to the WorldCom switch. And I believe you state that once the traffic gets to WorldCom, WorldCom then has to send

it along to Halls Lake and Issaquah and Auburn; is that correct?
A. Generally, yeah. I'm rereading the example here. Okay. Yeah.
Q. Okay. Assume that Qwest could show that the amount of traffic going from Seattle Main to only the Auburn rate center was sufficient to justify direct trunking. In other words, Qwest could demonstrate under this assumption that if the traffic had stayed on its own network to reach Auburn, Qwest would have used direct trunking.
A. Yeah, I guess if we were able to get down to the end office in the Auburn rate center, that that traffic would have terminated were it still on the ILEC's network, and they would, in fact, put the direct trunking in, perhaps you've got a basis to do that. But I think that analysis -- I mean, it avoids the -- you may have a basis.
Q. And given that assumption, are you stating that tandem rate would still be appropriate?
A. I think, under the mechanism that governs when the tandem rate applies today is in the FCC Rules, indicating if a CLEC's network serves a geographic area that's comparable, they're eligible for the tandem rate, and that is because there is an

investment in a network that provides that kind of coverage.

Now, you can look at specific traffic, which I think is your point, and start to carve that up, but, again, I think that's administratively a challenge.

Q. So would you agree, then, that in that situation, that the CLEC would be overcompensated, but that there's -- that you'd be stating that there's simply nothing we can do about it?

A. I mean, in that particular instance, if you look at that specific traffic to that particular end user, there may be, you know -- there could be overcompensation. Again, getting the price right is -- eliminates -- starts to get to that problem, but on average, there may well not be an overcompensation.

MR. TRAUTMAN: Thank you. That's all I have.

THE WITNESS: Okay.

JUDGE BERG: Dr. Gabel.

CHAIRWOMAN SHOWALTER: Can we take a break now, before --

JUDGE BERG: Sure we can. To accommodate the Bench's schedule, we'll take a 15-minute break.

We'll be back at 10 minutes to the hour.

(Recess taken.)

JUDGE BERG: We'll go ahead and be back on the record.

E X A M I N A T I O N

BY DR. GABEL:

Q. Good morning, Mr. Argenbright. I'd like to follow up on just one topic that you were asked about this morning, and that is load factors and how load factors are used to establish the cost of providing reciprocal compensation.

And first, am I correct that the reason why a load factor's important is that a cost model generally tells us the investment during the busy hour of the busy season of the year and it doesn't tell us what's the cost that would apply to every minute of every day of the year?

A. First, I've got to preface everything with I'm not familiar with cost models. I'm not a cost expert, so, you know, I'm not sure I'm qualified to get to the level of detail you might be after here. If you would try that one more time.

Q. Okay. There's been discussion in this proceedings about load factors, and I just would like

the record to be clear. Let me just ask you this more direct question. What is your understanding of the role that a load factor plays in establishing the rate for reciprocal compensation?

A. Today, or as proposed? I mean, I'm not sure how it is in the existing rates today. I'm not familiar with how -- the intricacies of how those were set, so I don't know if that's considered. If there are load -- if there are changes based on load factor that are part of the, you know, the forward-looking cost, then I can understand their consideration.

My caution is that when you consider load factors specific to -- each switch is going to have something different, and if you start trying to isolate those, I think you run into problems, as I've indicated.

Q. Well, I understand your caveat that you may not be familiar with how load factors have previously been used by this Commission, but I just want to ask you a more general question, so that the record's clear.

I think throughout this past two weeks we've been talking about load factors, but I'm not sure anybody has, you know, directly made a statement

or I -- load factors are an issue in the termination of traffic, but I'd like it if you could explain sort of the bigger picture, how load factors are used to establish rates?

A. Again, I think I go back to the same place. I don't -- I mean, I don't know how you would incorporate those into a model or, to the extent they have been, I don't know how that's done.

DR. GABEL: Okay. Thank you. I have no further questions.

THE WITNESS: Sorry.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. I have one follow-up question regarding Exhibit T-1200, page 21. No, I'm sorry. It's T-1201, page three.

A. Okay.

Q. My question is what does it take to measure a switch at a particular point in time with some regularity? Is it difficult or not difficult in a -- not an administrative sense, but a mechanical or software sense to have a monitor, so to speak, on a switch?

A. And I don't know the specifics of what that

would take, but I would presume you're now talking to the traffic engineering types and the switch managers that deal with, you know, the traffic coming into the switch and how it's configured and what the capacities are. I don't know -- I mean, I know there is reporting that is done, you know, so they know how the equipment is performing, but I don't know what, you know, additional burden it would take to measure a particular switch at some various periods in time.

CHAIRWOMAN SHOWALTER: Thank you.

COMMISSIONER HEMSTAD: I don't have any questions.

JUDGE BERG: Additional cross?

MR. DEVANEY: No, thank you.

JUDGE BERG: All right. And redirect, Ms. Hopfenbeck?

MS. HOPFENBECK: Yeah, I do have some.

R E D I R E C T E X A M I N A T I O N

BY MS. HOPFENBECK:

Q. First of all, let's go back to the load factor discussion. You opine in your testimony that the load factor does vary over time. And I wanted to ask you what the basis for that opinion was, to explain the basis for that opinion, the load factor

for a particular switch?
A. Yeah, I mean, probably two major impacts to a switch is, you know, getting new customers or losing customers are going to cause traffic to change. And then, as networks -- particularly, you know, with growth, people reengineer networks and add capacities in different places and do all those engineering things that make them efficient, and that can result, it seems to me, in changes in the load on a particular switch.
Q. Now, you had a discussion with Mr. Trautman about traffic that was going from a Qwest end office to a customer in Auburn, and he asked you to assume that were Qwest to carry that traffic, Qwest would -- Qwest -- or he asked you to assume that Qwest had a direct trunk running between Customer A's serving wire center and its end office in Auburn that would have served that wire center.
I'd like to walk you through that example, and I think it would be helpful if we drew this, so I can walk you through this and explain to the Commission how traffic flows under certain scenarios.
A. This is not my strong suit.
Q. Let's start out with just drawing the Qwest network. And we'll use black for that.

A. Sure.
Q. So if you could draw a Qwest end office serving Customer B, and a Qwest end office serving Customer A, and a Qwest direct trunk between those two end offices, and a Qwest tandem switch, and a CLEC switch. Probably put that in red.
A. I was going so good there.
Q. And a -- okay. First of all, can you draw the line? How does the CLEC currently interconnect with Qwest's network? Can you draw the trunks that would exist between the CLEC switch and Qwest's network?
A. Yes, you're going to have interconnection trunks at the tandem and at various end offices.
Q. Will you put the trunks to the end offices?
JUDGE BERG: And Mr. Argenbright, since you're not going to be holding the microphone, you'll need to boom a little bit.
THE WITNESS: Okay. I'm sorry. Okay. Yeah, what I was saying is that you'd have interconnection trunks running between the tandem, typically between the tandem and then the various end offices.
Q. What does Qwest require -- under what circumstances does Qwest require the CLEC to direct

trunk to its end offices?
A. When the volume of traffic between those is of a capacity that would warrant a T-1 facility.
Q. Do you know what percentage -- to what percentages of the end offices in Qwest's network WorldCom is currently direct trunked to?
A. I do not know that number.
Q. Is it a high percentage or a low percentage, do you know?
A. I don't.
Q. Okay. Let's say -- I want to take you back to the hypothetical that Mr. Trautman gave you. And assume that Customer A is calling Customer B, and Qwest is serving both those customers. Can you please explain the way Qwest will route that traffic, based on your understanding?
A. Okay. Based on, you know, the traffic -- really, two routes that it can take. One would be based on the availability -- assuming, again, that we've got the direct facilities between the two end offices, it would potentially take this direct trunked route if it's available. If it's not available, it will go the tandem route on our overflow basis.
Q. Okay. Now, let's assume the CLEC is

serving Customer B and Customer A is calling customer B.

A. Okay.

Q. Can you please explain your understanding of how traffic would go from A to B?

A. Okay. Maybe I'll just draw the entire CLEC network as a bit of a cloud here and just show the connectivity, which, I mean, this represents kind of this configuration, only in a CLEC architecture.

Q. We'll get to that. I just want to --

A. Okay, okay. So we're talking about traffic from A to be served by the CLEC. Assuming there's a direct route available, it would go over that direct trunking to the CLEC's switch, be switched and delivered to Customer B. If that route's not available, it will travel this tandem route, be delivered to the CLEC switch, and then again through the network to B.

Q. Okay. And under what circumstances will the direct trunking not be available between Customer A's serving wire center and the CLEC's switch?

A. Where the direct trunking would -- if the traffic at that particular time is -- I mean, if there's no circuits available, it's going to overflow to the tandem.

Q. Okay. Now, let's assume that Customer B is calling Customer A and Customer B is the CLEC customer. How will that traffic be routed from B to A?

A. Okay. Again, it will traverse the CLEC network, hit the switch, and then it's going to -- kind of the mirror of what we just explained. It will take the direct trunk, if available. If not, that too will overflow to the tandem interconnection.

Q. Now, when Qwest does transport the traffic that goes from CLEC Customer B to US West Customer A through the tandem, what is the reciprocal compensation that the CLEC is required to pay Qwest?

A. It's going to be the tandem, transport and end office.

Q. Okay. Now, Qwest's tandem, how do you -- can you please describe the area served by the Qwest tandem?

A. Well, as I'm generally familiar with ILEC architectures, generally, is you've got kind of the hub and spoke type arrangement. You've got a tandem that aggregates traffic from a variety of end offices, and the presence of the tandem avoids having to have all the direct trunking among all the combinations of end offices you could have.

Q. And the presence of the tandem also allows the routing of overflow traffic among all those end offices, even that are direct trunked?

A. Absolutely. And my understanding of engineering principles is you would not -- in establishing a direct trunk arrangement, you're going to presume there's going to be overflow. You would not engineer an interconnection path that is going to be empty for periods of time. I don't think that's consistent with engineering practices.

Q. Okay. Now, talk about the -- tell me about the CLEC switch and what is -- what's the nature of the CLEC switch and the CLEC network?

A. Well, it -- the CLEC switch, again, in this example, we've got a single switch, but this cloud I've drawn, again, is a fiber transport network. We've got on net buildings, multiple nodes, collocations with other Qwest end offices. I mean, there's a full network here that provides the coverage to the area that the CLEC serves and, you know, I mean, that -- it just -- it's a classic struggle. This is a different architecture than this.

Q. How do you -- can you describe the difference between how traffic is routed by a CLEC

from its switch to Customer B when it has one switch serving a wide geographic area and how Qwest routes traffic when it is direct trunking between two end offices?

A. When --

Q. So describe the difference between serving -- routing traffic from Customer A to Customer B, one, assuming that Qwest is carrying that traffic wholly on its network, it serves both customers and it's direct trunking them, and two, how that differs from the way it's routed when Customer A is Qwest, Customer B is ours, and our switch -- WorldCom's switch serves a geographic area comparable to Qwest's tandem?

A. Yeah, in that instance, when this switch serves a geographic area comparable to this, I mean, this is a tandem. It's delivered at a tandem for delivery to B, as opposed -- I mean, it is more this route in the instance of both customers being on the ILEC's network. Even if that direct trunk exists, there is overflow to the tandem and there is use of the tandem. The CLEC is in that same position with its tandem, based on the fact that it covers the geographic scope of that tandem.

Q. Thank you. Now, Mr. Argenbright, there

have been a number of questions to you regarding your position that the appropriate rate that the CLEC should pay and the appropriate rate that the ILEC should pay for reciprocal compensation should be one based on the ILEC's cost. What's the basis for that opinion?

A. I mean, that is the mechanism that the FCC established, the costs of the ILEC are the proxy for the costs of the CLEC. And a lot of the basis for doing that was exactly the difference in network architectures that the FCC recognized.

Q. And when you refer to the costs are that of the ILECs, what particular type of cost are you talking about?

A. The costs in -- their network operation costs, if you will, their investment in network.

Q. What's the standard that the FCC has adopted for setting those costs?

A. TELRIC, forward-looking economic.

Q. Thank you. Mr. Devaney asked you some questions about your table in Exhibit T-1200. You'll have to tell me what the page number is, because I have a --

A. Okay. It's page 22.

Q. On 22. Do you have any sense of what the

magnitude of the difference in your calculation would be if what Mr. Devaney suggested to you were the case, and that is that the Neilsen Report were a measure of users' average usage, as opposed to households? Do you know what the magnitude would be?
A. No, I don't.
Q. Okay, thank you. And it's your understanding that what the Neilsen study was measuring was household usage?
A. That is correct.
MS. HOPFENBECK: That's all I have. Thank you.
JUDGE BERG: Additional cross?
MR. DEVANEY: Thank you.

R E C R O S S - E X A M I N A T I O N

BY MR. DEVANEY:
Q. Mr. Argenbright, looking at the diagram that you've prepared, would you agree with me that if Qwest did put in the direct trunks that you identified up there, that the vast majority of traffic would actually go over those direct trunks and not through the tandem?
A. I don't know if I -- I mean, it depends on what other traffic is competing for those facilities.

Q. Do you have a sense of what percentage of traffic typically flows over direct trunks if the traffic volumes justify putting those trunks in place?
A. Yeah, I don't know the volume. I mean, I know that the goal would be to keep them fairly busy.
Q. Ninety percent. Is that about --
A. I don't know if it's that high. I really can't go to the specific percentage, but certainly to keep them busy.
Q. Okay. And is it correct that if Qwest routed the traffic over direct trunks and did not go through the tandem, that all WorldCom would be charged would be the end office rate?
A. I'm sorry, the traffic is flowing from which to which, again?
Q. If traffic is flowing from WorldCom's Customer B over to Qwest and it's routed over direct trunks directly to a Qwest end office, Qwest would just be charging WorldCom the end office rate; correct?
A. That is correct.
Q. And if you accept my hypothesis, and I understand you don't know, but if 90 percent of the time traffic is carried over direct trunks, then in

90 percent of the case, you'd have WorldCom paying just the end office rate; correct?
A. In that same traffic flow that we just described.
Q. Okay, okay. But, now, if we reversed that, and if we assume there's a call coming from Qwest Customer A over to WorldCom Customer B, sort of the mirror image, under WorldCom's theory, 100 percent of the time Qwest would be charged both the end office and the tandem; correct?
A. That is correct, because that CLEC switch is -- by basis of the FCC's determination, that is a tandem.
Q. So on the one hand, you'd have a call from B going to A, and WorldCom would pay the tandem rate, if you accept my 90 percent figure, only 10 percent of the time and the end office rate 90 percent of the time. But if the converse happens, where A calls WorldCom's Customer B, under your proposal, Qwest pays tandem and end office 100 percent of the time?
A. That is correct. And again, behind -- in terms of what's on each end of that direct trunk, between the end office serving A and the CLEC in this cloud I've drawn, is the fact that this is a cloud, a tandem coverage area, and that is an end office. I

mean, that's the basis for that.
Q. Okay. And that proposal is regardless of how much of that cloud is actually used by WorldCom; correct?
A. Right. The fact -- I mean, it is based on the fact that it is a tandem. I mean, again, we're back to the mechanism the FCC established. If it serves a geographic area in its tandem, then it's a tandem.
Q. And isn't it true that if you only had one ISP customer behind your switch, and that was your only customer, under your theory you'd still receive both the end office and the tandem?
A. Depending on -- I mean, if you've got one customer behind your switch, you know, does your switch qualify for the geographic scope that it takes to become a tandem.
Q. So would you agree that to determine whether a switch should qualify for tandem, that what you ought to do is look at the customer makeup that hangs off that switch?
A. No, I think if you go down that path, you're talking about how good of a job of marketing has the CLEC done. I mean, the question is where would it offer service. I mean, I'm presuming, with

one customer, you're talking about a switch and one rate center of service. If you've got a switch and multiple rate centers and, like I say, again, talking about the WorldCom network, fiber transport facilities and collocations and SONET rings and on net buildings and that kind of an architecture that covers the geographic scope, then yeah.

Q. Well, what if you have -- this will be my last area of pursuing this with you. But what if you have a complete network like you just described, but your marketing efforts haven't been successful and all you have are one or two ISPs hanging off your switch. You'll admit, won't you, that there are a lot of network efficiencies that would exist, because you're just funneling 100 percent of your traffic to those one or two ISPs; right?

A. Well, if you were that unsuccessful -- I mean, I think the hypothetical is just not very realistic, because if you were that unsuccessful, the existence of that other investment that's out there with no customers, I don't -- I mean, that is a difficult thing to envision.

Q. Well, I know you're begging my hypothetical, but let me ask you to just accept it for purposes of the question. Would you agree with

me that in the situation I described, you have a significant amount of network efficiency if your traffic was just flowing to those one or two ISPs?
MS. HOPFENBECK: I'm going to object to the question. The witness has testified that the hypothetical is unrealistic. And given that, I don't think that the hypothetical is a proper hypothetical.
JUDGE BERG: Qwest is entitled to do whatever it wants to do or can do with the hypothetical, as posed. But I think it's understood that in a hypothetical, the possible rhetoric always will be that it just doesn't have any basis in reality. So the objection is overruled.
MR. DEVANEY: I'll keep this brief, Your Honor.
JUDGE BERG: Okay.
Q. Again, would you agree, in that situation I described, that you would have significant network efficiencies?
A. With regard to that particular traffic, with regard to the network that would be in place, no, because you'd have a tremendous amount of investment that would not be --
Q. With regard to that particular traffic, is what I'm focusing on.

A. Yeah, I mean, with that other investment, I still can't say you've got efficiency --
Q. Okay.
A. -- in this network.
MR. DEVANEY: Thank you. Nothing further.
JUDGE BERG: Ms. Miles.
MS. MILES: I have nothing.
MR. TRAUTMAN: No, nothing further.

E X A M I N A T I O N

BY DR. GABEL:
Q. Mr. Argenbright, am I correct that MCI was one of the co-sponsors of the Hatfield model?
A. I believe that's true, yes.
Q. Okay. And is it your understanding that in Docket UT-960369, that WorldCom proposed that this Commission use the Hatfield model to establish the price for unbundled network elements?
A. I don't know specifically within that docket. I know that MCI was a proponent of that in various jurisdictions.
Q. And am I correct that this diagram effectively implies -- or maybe your testimony here today is that WorldCom is asking that 100 percent of the calls that are local calls be priced as if

they're tandem routed calls?
A. That is -- yes, traffic delivered, like I said, that meets the geographic test, that is a tandem.
Q. Okay. Now, you may not be an expert of the Hatfield model, but I still think I can present this question to you. And I just pulled up the Hatfield inputs that were -- that are the default scenario values for the Hatfield Version 3.1 that was presented in UT-960369.
There's a folder, it says User Adjustable Inputs, and there's a line, that's line 26, and it says, Direct routed fraction of local interoffice traffic. And the default scenario value's 98 percent, which suggests to me that when the Hatfield model is run, that the Hatfield model developers said that this Commission or any Commission or anyone who's using the model should assume that, on a forward-looking basis, that 98 percent of the local traffic is direct routed.
And if my understanding's correct, and maybe it's not and you can correct me, why would it be appropriate for this Commission to assume, when establishing the prices of a UNE, that 98 percent of the local interoffice traffic is direct routed, but

for the purpose of reciprocal compensation, that 100 percent goes through a tandem?

A. Again, I have to rely on the structure that the FCC set up. I mean, that's the basis of my position, is that, again, based on geographic scope, if you meet that test, then your network is a tandem. And you know, there's considerable investment there.

Q. But for -- well, I have no further questions. Thank you.

A. Okay.

JUDGE BERG: Additional redirect?

MS. HOPFENBECK: Yes.

R E D I R E C T E X A M I N A T I O N

BY MS. HOPFENBECK:

Q. First of all, Mr. Argenbright, Mr. Devaney was talking to you about two scenarios under which Qwest would route traffic to Customer B that was being served by the CLEC.

And I'm going to ask you -- under one scenario, Qwest direct trunked that traffic from its customer's serving wiring center to the CLEC's switch, and under the other scenario, Qwest routed that traffic from its customer through to its customer's serving wire center, then through the

tandem, and then through the CLEC switch. I believe there was a discussion as to the percentage of the time direct trunking would occur, as opposed to tandem.

Can you tell me, with respect to the cost that WorldCom confronts in delivering the traffic that it has received from Qwest to its customer, is there any difference in the cost WorldCom experiences in making that delivery, that -- depending on whether Qwest routes it through their tandem or through directly from their end office?

A. No, the CLEC network in this picture is a tandem, and whether or not -- the direct trunking, you know, in the Qwest network really doesn't change the nature of the CLEC network.

Q. Now I would like to ask you a couple questions to follow up on Dr. Gabel's questions about the Hatfield model. Are you aware of what the nature of the network is that the Hatfield model is developing costs for?

A. Not specifically. I think it was developed, though, for the hub and spoke type architecture of the ILEC.

Q. Is there an assumption made in that model that the wire centers that are in the ILEC's model

are currently in place?
A. I don't know.
Q. Okay. At any rate, does the CLEC's network resemble the structure of the ILEC's network?
A. No, it doesn't.
MS. HOPFENBECK: I have nothing further.
JUDGE BERG: Mr. Argenbright, that concludes your testimony and cross-examination here today. Thank you very much for being present. You're excused from the hearing at this time.
THE WITNESS: Thank you.
JUDGE BERG: We'll be off the record.
(Recess taken.)
Whereupon,
MICHAEL STARKEY,
having been first duly sworn, was called as a witness herein and was examined and testified as follows:
JUDGE BERG: Thank you. Mr. Kopta.
MR. KOPTA: Thank you, Your Honor.

D I R E C T E X A M I N A T I O N

BY MR. KOPTA:
Q. Mr. Starkey, would you state your name and business address for the record, please?
A. My name is Michael Starkey. My business

address is 1918 Merlin Drive, Jefferson City, Missouri. The zip code is 65101.
Q. And on whose behalf are you testifying today?
A. I'm testifying on behalf of Focal Communications Corporation of Washington and XO Washington, Incorporated.
Q. Mr. Starkey, did you prepare or have prepared exhibits that have been marked for identification as T-1220, 1221, and 1222?
A. I did.
Q. Do you have any changes or corrections to make to those -- any of those exhibits at this time?
A. I don't.
Q. Are they true and correct, to the best of your knowledge?
A. Yes, they are.
MR. KOPTA: Your Honor, I move admission of Exhibits T-1220 through 1222.
JUDGE BERG: Hearing no objections, they are so admitted.
MR. KOPTA: And Mr. Starkey is available for cross-examination.
JUDGE BERG: Mr. Devaney.
MR. DEVANEY: Thank you.

C R O S S - E X A M I N A T I O N

BY MR. DEVANEY:

Q. Good morning, Mr. Starkey.

A. Good morning, Mr. Devaney.

Q. I'm John Devaney, representing Qwest. I have just a few areas of inquiry for you. Could you begin by turning to page 13 of your responsive testimony?

A. Okay.

Q. At lines four through eight, you state there, and I'm paraphrasing somewhat, that the characteristics of the average local call have changed because calls have become longer in duration. Do you see that?

A. I apologize. Unfortunately, my numbering isn't the same as yours. Can you just read me the sentence, and perhaps I can --

Q. Sure. It's actually two sentences that I'd like to ask you about. Begins, I would also agree that with the growth of machine to machine traffic, (like ISP-bound traffic), characteristics defining the average local call have changed as calls have become longer in duration.

Then you continue, Hence, traditional

pricing models may no longer provide results with the same levels of accuracy as they did in the past.

JUDGE BERG: Counsel, I think, just for ease of reference, I'll provide the witness with my unmarked copy of the exhibit.

MR. DEVANEY: Thank you, Your Honor.

MR. KOPTA: Thank you, Your Honor.

THE WITNESS: I apologize. Okay. I'm with you.

Q. Okay. Would you like to read it yourself before I ask you?

A. That's okay. Go ahead.

Q. Okay. Is it your understanding that the termination rates that were ordered here in Washington for Qwest and Verizon were calculated using what you would call a traditional pricing model?

A. My understanding is that they're based on an average minute of use. I assume that's wherein this set of costs were spread over an average duration of call length. I don't know what that average duration of call length was.

Q. Okay. And so is it your testimony that because average local call characteristics have changed, that if a traditional pricing model approach

was used here in Washington, that the rate that produces probably is no longer accurate?
A. I don't think I'd say it that way. I think the way I would say it is that local calling characteristics are always changing. They change from day to day and from year to year. Hence, to the extent you can get the most recent and accurate information to use in your cost studies, you're always going to have a rate that's more indicative of the traffic that currently exists. And in my testimony, I suggest that if indeed the Washington Commission relied on information that might be out of date, the best way to remedy that is to update that information and run the models again.
Q. Okay. Would you agree that if the termination rates that are in effect don't take into account the longer duration of Internet calls that has arisen in recent years, that those rates wouldn't properly reflect a rate for switching Internet calls?
A. I'd suggest I don't know whether it would or not. You should update them if your objective is to get the most accurate cost analysis.
Q. You just don't know, then, about the current rates that are in effect and how they relate to the actual costs of switching Internet calls; is

that correct?
A. In my testimony, I point to a trend that I think you could fairly reasonably be drawing conclusions from, and that is that call lengths are getting longer. I don't know the specifics, as I said earlier, of what the average call length was that the Washington Commission relied on, but, again, the point is if you want the most effective and reasonable cost information, use the most recent data.
Q. But just to be clear, with respect to the termination rates that exist here in Washington today, you don't know whether those rates are actually cost-based for the costs that are incurred for switching Internet calls; is that correct?
A. The reason I would quibble is I would agree they probably are cost-based. Could the information used to derive those costs be more recent, more accurate, perhaps.
Q. Okay. Would you look at page 15 of your testimony, please? I'm going to read two sentences into the record and ask you about them. I'm reading from -- beginning at line one, where you state that the traditional pricing models were used to arrive at average per-minute of use rates so as to overcome

administrative complexities and costs that result from administering a two-tiered rate structure. It is my understanding that these complications still exist and that many carriers (including many ILECs) still struggle with implementing and administering such a system. Do you see that statement?

A. I do.

Q. Could you explain for me what complications you refer to there and what administrative complexities you're referring to there?

A. Sure. Any time in your rate structure you require more data to build versus less data, you're going to have additional complexities and the costs associated with gathering that data are going to increase. With respect to a bifurcated rate structure, you need to know how many initial minutes you have and then a number of additional minutes, as well. That's additional information from what you would need if you just had postalized rates or an average rate per minute. That additional information generates both the complexities and the additional costs associated with that bifurcated structure.

Q. I notice in footnote four of your testimony you point out that many carriers in California and Texas, where two-tiered rate structures were

required, have nevertheless agreed upon an average per-minute rate that would reflect the actual rates adopted by the Commission. Do you know why that has occurred with those carriers?

A. I do. For example, let's use California as an example. The California Commission adopted a bifurcated rate structure, much like we're talking about here. In negotiations, both carriers kind of sat down and said, We really don't want to bill it that way, so why don't we just agree upon an average length of call to determine postalized rates using that data and then bill each other that rate on an average per-minute of use basis. It made it a lot simpler for both and they both agreed to it.

Q. What are the typical billing concerns that arise from a two-tiered structure, do you know?

A. It's, again, as I mentioned a second ago. It's the idea that you now have to retrieve additional data from your switch -- it's the idea that you have to retrieve from your switching information additional data, and that is how many initial minutes and how many additional minutes, whereas on a nonbifurcated rate structure, you simply need the total number of minutes.

Q. Is this a concern for both CLECs and ILECs,

do you know?
A. I believe it is.
Q. Would you look at page 28, please, of, again, your responsive testimony? The answer, the full answer that appears on that page, and again, I'm paraphrasing, but the gist of it, as I read it, is that it's logical to assume the network carrying predominantly Internet traffic would have a more peaked load distribution. Is that a fair characterization?
A. Yes.
Q. And a simple question for you. Is that something you've actually studied? Have you looked at data?
A. Well, I have looked at data. I couldn't show you a study and say this company only has Internet traffic and so look at its traffic volume. It's more peaked in nature. I am drawing general conclusions of data I've seen in studies, though.
Q. Okay. But for this testimony, you're not relying on any specific study that you've prepared or that you've analyzed; is that correct?
A. That's correct. These conclusions are drawn from my experience with multiple studies.
MR. DEVANEY: Okay. Thank you. That's all

I have.

JUDGE BERG: Ms. Miles.

MS. MILES: Yes, just a few questions.

C R O S S - E X A M I N A T I O N

BY MS. MILES:

Q. Hi, Mr. Starkey. I'm Meredith Miles, for Verizon.

A. Good morning.

Q. Just a couple of areas. First, if I could refer you to page 21 of your responsive testimony that we've just been looking at.

A. Okay.

Q. Let's see. And my lines might be different from your lines, but starting on line 16, where you're discussing -- where it says ISDN PRI services actually use more resources of the switch's processor (a usage-sensitive cost of the switch) than other types of traditional lines, trunks.

My question for you is does a call setup use switch processor time?

A. It does.

Q. And after the call is set up, is any more switch processor time utilized for the duration of the call?

A. Not generally, though there are circumstances where it is.

Q. Okay. All right. Then if I could refer you to page five of your testimony. And I'm -- are you there yet?

A. I am.

Q. Okay. I'm at approximately line seven, where you're discussing the fact that you attached some additional testimony from a Colorado proceeding, and you state here that that testimony addresses many of the same arguments Qwest and Verizon are making in this case?

A. That's correct.

Q. Okay. Do you agree that, in that Colorado proceeding, that the Colorado Commission did not accept your conclusions?

A. The Colorado Commission -- yeah, I think that's a fair characterization. The Colorado Commission decided consistent with the way it had decided in a previous decision in a Sprint arbitration that reciprocal compensation should not be paid.

Q. Do you agree that they, in fact, decided to adopt a bill and keep type scenario?

A. I believe that was a default if

negotiations weren't fruitful.
MS. MILES: Okay. Just one moment. I don't have anything else.
JUDGE BERG: All right.

E X A M I N A T I O N

BY DR. GABEL:

Q. Good afternoon, Mr. Starkey. I just want to follow up first on a question you were just asked regarding the central processor. Would you concur that the central processor just is also used when a call is terminated in the sense of when the party hangs up, the central processor is involved in disconnecting the equipment?

A. Yes, it both sets up and tears down the call.

Q. And I just want to also follow up on the questions about California. In the California process, was a separate rate established for ISP calls versus non-ISP calls?

A. No, I don't believe so.

Q. So the calculation that you described in response to the question from Mr. Devaney, that was the average length of any call, not just an ISP call?

A. That was all calls that passed between the

two networks.
Q. Okay. And finally, on this topic, you discuss with Mr. Devaney some of the concerns that the CLECs, as well as the ILECs, have about implementing a two-part rate structure, a setup charge and a per-minute charge.
Am I correct that I understood you to respond that if you're going to have that kind of rate structure, the switch is going to have to monitor that kind of activity?
A. No, I don't think that's what I meant. What I mean is you're probably going to have to go to your switch and derive from it more data than you would under a nonbifurcated rate structure. It measures that stuff all the time. It's a matter of retrieving it, more than it is generating it.
Q. Mr. Starkey, have you looked at traffic reports that engineers look at on a regular basis to monitor the flow of traffic between central offices?
A. Yes.
Q. And is it your understanding that those reports contain information, the number of calls, as well as the minutes of use?
A. They do.
Q. Okay. So would that be the type of

information that would be needed to implement a two-part rate structure?
A. Yes, it would be.
Q. And if that kind of information is already available on a regular basis to CLECs, why would it be difficult to implement a two-part rate structure?
A. I think the first thing I would say is it's available to both the CLECs and ILECs, those Nortel and Lucent reports generally are consistent among both types of carriers. There is a multitude of data, as I'm sure you're aware, that is generated by the switch with respect to traffic that passes over it. Only some amount of that data is then passed on for billing purposes. This would be, if a bifurcated rate structure were implemented, this would just be another piece of data that would have to be passed on. It would be more complicated.
If I were asked could it be done, I'd say yes, it certainly could be. I know that in circumstances where carriers have sat down and negotiated, they've simply decided it's easier to do a postalized rate than it is a bifurcated rate, but it certainly could be done. Even though I understand Verizon, in this case, has said they can't do it.
Q. I think I said that was my last area of

questioning, but, actually, I realized I started to ask Mr. Argenbright this question. He felt a little uncomfortable with it. Let me also present it to you.

There's been discussion in this proceeding about load factors and how they affect the cost of terminating a call. Could you just explain in general terms how a load factor is used to develop the switching rate?

A. Sure. Whenever you buy a switch, you have to know how big that switch has to be in terms of the amount of capacity it can accommodate. The way you do that is you determine -- you do a traffic study for the particular customers that that switch is going to serve and you determine what their traffic may look like over a period of time. Generally, a year. You then determine, at a given level and time, what is the peak of that traffic; i.e., how many simultaneous calls will have to be accommodated at any given point in time.

Given that peak, you then build the switch such that it can maintain a quality of service at that peak. You invest in your switch to that level and you know at that point that any other point in time in the year, that switch will maintain at least

that same quality of service.
Q. And then -- I understand you've now described how you engineer a switching machine. How is the load factor used in developing rates?
A. Okay. Let's assume two scenarios. Let's assume a peak that is flatline all the way across. In other words, it's an unlikely scenario, but at any given point in time, you're always at the peak of your switch or using it perfectly, really, is what you're assuming. And then let's assume a scenario where it's very peaked, you have a very high peak at one point and very low amounts of usage at other points during the year.
Assuming that the switch will accommodate the same amount of traffic -- and I kind of describe this in my testimony. There's some pictures at page -- starting at page 26. What you'll see I've done there is I've assumed these two types of scenarios, one less peaked and one more peaked in nature. And I've assumed that the total volume of calling or really capacity at this stage equal Y, and they both equal Y, so that they're the same.
What you do is -- let's assume -- let's look at scenario two, for example, on page 27. Scenario two suggests this switch at its busiest

time, its peak, will need eight centum call seconds of capacity, eight CCS. There is an amount of investment that will need to be made to get eight CCS of capacity on that switch. Let's assume it's $10 million. That's probably not extremely accurate, but let's assume it's $10 million.

What a cost model will do, a cost model like the Switching Cost Information System from Telcordia, what it will do is it will take that amount of investment needed to meet the peak and it will then divide it -- that's simplistic, but it will divide it by the number of minutes within the entire year to get an average cost per minute, such that everybody that uses the switch funds the peak.

DR. GABEL: Thank you very much. I have no further questions.

JUDGE BERG: Any additional cross-examination?

MR. DEVANEY: Very briefly. Thank you.

C R O S S - E X A M I N A T I O N

BY MR. DEVANEY:

Q. Mr. Starkey, is it true that most billing systems of ILECs and CLECs are designed based on a premise of a single rate for termination purposes, do

you know?
A. It's a little broad and beyond my expertise, but of the clients I'm familiar with, most of them bill and retrieve information for billing for purposes of billing an average rate per minute.
Q. And would it be correct that the software that is used is geared toward average rate per minute design?
A. Yes.
Q. In response to one of Dr. Gabel's questions, I think you said that there is information available in the switch, and I guess my question for you is is it possible or probable that the CLEC, ILEC billing systems are not designed to retrieve the information that might be in the switch, do you know?
A. Yes, and it's very possible. It may require some reprogramming if they were to implement a bifurcated rate structure.
Q. So it would require new software or reprogramming?
A. I'm not very comfortable saying it might require reprogramming or software. It might require a change in either or both.
MR. DEVANEY: Okay. Thank you.
MS. MILES: No questions.

MR. TRAUTMAN: No questions.
JUDGE BERG: Any redirect.
MR. KOPTA: Very briefly. A couple of areas.

R E D I R E C T E X A M I N A T I O N

BY MR. KOPTA:

Q. First, Ms. Miles asked you about the decision by the Colorado Public Utilities Commission. Do you recall that line of questions?

A. I do.

Q. Have you been involved in other proceedings where reciprocal compensation has been at issue before a public utility commission in a state?

A. I have. I think in my testimony I suggest that I've been involved in at least 20. I think the real number is more like 23 or 24.

Q. Of that total, how many of the state commissions, the result of the proceeding was to require reciprocal compensation, including compensation for ISP-bound traffic?

A. Of those 24, only three decided that reciprocal compensation should not be paid. So it would be 21 out of the 24 I've been involved in.

Q. You also had a discussion with Dr. Gabel

about load factors. And my question about those is are those viewed on the basis of total traffic or on the basis of a particular subset of traffic; for example, ISP-bound traffic?

A. They are the total accommodation needs of a single switch. A couple things that probably should be said about that. It does get specifically to the point that if you were to go in and suggest, Let's take all of the traffic that flows either to an ISP, or take another example, that flows to my house, how that impacts the amount of investment you would need at the busy hour. It doesn't. It doesn't impact that. The total investment of the switch is only impacted by the total amount of traffic that's accommodated by that switch.

A second thing to point out is that, within SCIS model, for example, I heard discussion earlier of could we determine costs more applicable to a given load factor on a given switch. Really, we're headed there, I think, toward peak load pricing, which, while economically the right way to go, can be very difficult to implement. We have to remember that the SCIS model builds for the user, the user builds a model office within the SCIS model to determine the particular load characteristics for

which costs will be derived. That model office may or may not be indicative of any given single switch. In fact, if you use the model correctly, you should gather an average from all of your switches such that if you've used the model correctly, you should have an average load capacity of all of your switches on the network.

I say that so that we, I guess, don't try to use an axe as a scalpel; we don't try to use the SCIS model to say how could we set rates on each individual switch based upon individual load characteristics. Unless you run the model very differently, you won't come up with a conclusion that makes sense in that respect.

MR. KOPTA: Thank you. That's all I have.

JUDGE BERG: Any additional cross?

MR. DEVANEY: Very briefly.

R E C R O S S - E X A M I N A T I O N

BY MR. DEVANEY:

Q. You mentioned that you've testified in something like 24 cases involving recip. comp. and Internet traffic. Did any of those cases involve disputes over existing interconnection agreements and whether parties tended to require recip. comp. for

Internet traffic under those agreements?
A. I think some of them probably did. I don't think it was very many. Maybe three or four.
MR. DEVANEY: Okay. Thank you. That's all I have.
JUDGE BERG: All right, Mr. Starkey. That concludes your testimony here today. I want to congratulate you on being a finalist in the Commission's SWPM competition. That's spoken words per minute. You and Qwest witness Teresa Million --
MS. ANDERL: Barbara Brohl.
JUDGE BERG: Barbara Brohl, that's it, Barbara Brohl are so far right at the head of the pack.
DR. GABEL: But better than Gutiya (phonetic), at 12:00 midnight on the final night of hearing. She's the champion. As Terry Stapleton said at that time, he said, What did you have for breakfast.
JUDGE BERG: Thank you very much for being here. You're excused from the hearing. At this time we'll be adjourned. Off the record.
(Proceedings adjourned at 11:55 a.m.)