EXHIBIT RVF-17T

BEFORE THE WASHINGTON STATE
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of	**)**	
	)	**DOCKET NO. UT-033044**
QWEST CORPORATION	**)**	
	)	
To Initiate a Mass-Market Switching	**)**	
And Dedicated Transport Case	**)**	
Pursuant to the Triennial Review	**)**	
Order	**)**	

RESPONSE TESTIMONY OF

ROBERT V. FALCONE

ON BEHALF OF

AT&T COMMUNICATIONS OF THE PACIFIC NORTHWEST, INC., AT&T LOCAL SERVICES ON BEHALF OF TCG SEATTLE, AND TCG OREGON (COLLECTIVELY "AT&T")

NETWORK AND OPERATIONAL IMPAIRMENT

February 2, 2004

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. My name is Robert V. Falcone

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. Yes; I have filed two pieces of testimony, one on network architecture and another on the hot cut process.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. The purpose of this testimony is to respond to several of Qwest's witnesses, namely Mr. Weber, Mr. Pappas and Mr. Easton.

Q. BRIEFLY, WHAT DID EACH OF THESE QWEST WITNESSES ADDRESS IN THEIR TESTIMONY?

A. Mr. Weber offered his understanding of switching and transmission technologies available to the competitive local exchange carriers ("CLECs") should the Commission determine that Qwest no longer will offer unbundled switching. Mr. Pappas testifies about his perception of operational and economic impairment as it relates to collocation and CLEC-to-CLEC cross connects. And finally, Mr. Easton discusses Qwest's unbundled switching, unbundled loop and resale products. He also asserts that he "will describe a transition process that Qwest

and CLECs will use to transition away from"[1] UNE-P. In fact, after offering no substantive discussion of a proposal, Mr. Easton merely refers the Commission to the Batch Hot Cut procedure where he believes such a process will be developed.[2]

Q. WILL YOU BE LIMITING YOUR RESPONSE COMPLETELY TO THESE WITNESSES?

A. While I will primarily address Mr. Weber, Mr. Pappas and Mr. Easton, I will interject responses to other Qwest or CLEC witnesses where the subject matter warrants an insertion of their thoughts and my response.

Q. HOW IS YOUR RESPONSIVE TESTIMONY ORGANIZED?

A. I have broken the testimony into witness and subject categories. That is, I will discuss Mr. Weber's testimony and the various subjects he addresses; then I will move on to Mr. Pappas and so forth.

II. MR. WEBER ON SWITCHING AND TRANSMISSION TECHNOLOGIES

Q. WHAT IS YOUR OVERALL IMPRESSION OF MR. WEBER'S TESTIMONY?

A. I think Mr. Weber did a fine job of supporting several of the operational impairment issues that I discuss in my Direct Testimony. Specifically, a CLEC simply cannot connect its end user customers to its switch by using the short cross

[1] William R. Easton Direct Testimony at 2, lns. 10 – 13.
[2] *Id.* at 8, ln. 9.

connection wires that Qwest employs; rather, as Mr. Weber points out at length in his testimony, CLECs must use extensive back haul configurations such as "(1) Enhanced Extended Loops ("EELs"); (2) Digital Loop Carrier ("DLC"); and (3) Remote Switch Units ("RSUs")".[3] While Mr. Weber does not contrast the 200 feet or less of cross connection wire that Qwest uses to connect its switches to the customers' loops, he does demonstrate the extensive distances CLEC customers' signals must travel before they reach the CLEC switch and their ultimate destination.

Q. ARE CLECS AT AN OPERATIONAL DISADVANTAGE BECAUSE THEIR CUSTOMERS' COMMUNICATIONS SIGNALS MUST TRAVEL GREATER DISTANCES TO THE SWITCH THAN QWEST'S?

A. Yes, for several reasons. First, and in general, as sound moves further from its source it incurs loss or becomes fainter. The loss, in turn, limits the distance that sound can travel without the need for some form of amplification. This is true too of electrical current that travels over copper wire such as the local loop typically used for mass-market customers. Second, for the signal to travel to the distantly located CLEC switch without disrupting the integrity of service quality, the CLEC must install equipment that will convert the analog signal to a digital signal, concentrate the signal and mulitiplex it onto transmission facilities, which it must either purchase and install or lease from the ILEC. Depending upon the actual

[3] Joseph H. Weber Direct Testimony at 7, lns. 8 – 9.

location of the CLEC switch, the necessary transmission facilities could be quite extensive. All of this equipment and lengthy transmission facilities inject additional costs for the CLEC and potential points of failure requiring added maintenance. In short, all of the additional equipment and transmission facilities create both an operational and economic barrier to service.

As Drs. Lehr and Selwyn note in their economic consideration of this issue, "the required use of additional backhaul facilities creates a cost disadvantage for the CLEC, a cost that is avoided entirely when switching is provide by the ILEC."[4]

Q. HOW DOES THE ILEC AVOID THESE OPERATIONAL AND COST IMPEDIMENTS?

A. In contrast to CLECs, for ILECs, once the customer's loop enters the central office it is connected directly to the ILEC's switch by a short length of cross connection wire that adds virtually no impedance on the line

Q. MR. WEBER ASSERTS THAT "IF A CLEC HAS A SWITCH WITHIN 600 MILES OF A CUSTOMER LOCATION, IT IS CAPABLE OF USING THAT SWITCH TO SERVE THAT CUSTOMER." DO YOU DISAGREE WITH HIS CONCLUSION?

A. From a purely technical standpoint, Mr. Weber is correct that a CLEC switch could serve a customer 600 miles away. The real question is whether that

[4] Direct Testimony of Lehr and Selwyn at 43, lns. 5 – 6.

customer could afford to pay (or would be willing to pay) what the CLEC would have to charge for such service given the extensive equipment and transport medium required to provision the service. The problem is best illustrated by way of an example. In this example, imagine a CLEC customer wishes to call her next-door neighbor. The call would travel the distance from the customer's premises to the Qwest central office where the customer's unbundled loop terminates, and incidentally where the Qwest switch is located. The call, after traveling the length of the loop, which must be connected to the CLEC's collocated equipment in the central office, would then begin its 600-mile journey to the CLECs switch. Assuming the CLEC has rejected use of the Enhanced Extended Loop or "EEL" (for the reasons discussed below), it must have obtained collocation space and installed the equipment necessary to digitize, multiplex and concentrate the signal from the loop. In addition, it must have the necessary 600 miles of transport installed or leased. Once the CLEC switch receives the call, the switch will determine where to send the call next based upon the digits dialed. In this case, assuming the called neighbor is a Qwest retail customer, the CLEC will have to transport the call back to its Point of Interconnection ("POI") with Qwest,[5] which in turn will have to deliver the call to the Qwest local switch located in the same central office where the call originated; that is back—at least—600 miles from where it originated. The total round trip mileage for this

[5] CLECs typically place their POIs on Qwest's network at the Qwest tandem unless the CLEC has enough traffic to justify a direct trunk between an end office (a/k/a central office) and its switch. In the mass market situation it is less likely that CLECs will have sufficient traffic to direct trunk to an end office.

CLEC customer to call her neighbor who may live as little as 100 feet away is over 1,200 miles. These 1,200 miles don't come free for the CLEC who must have the backhaul facilities in place to get these calls in and out of its distant switch. Additionally, and as hard as it may be to believe, this 1,200-mile trip is the best case scenario for this call.

Q. WHY DO YOU SAY THAT THIS IS THE BEST-CASE SCENARIO?

A. In the POI at the tandem situation I described above, where the neighbor of the CLEC customer happens to be a customer of another CLEC, the call routing becomes more complex, costly and subjected to service quality issues. Because of all of the extra connections necessary to complete this call there is no telling how far it will travel before the CLEC's customer can ring her next door neighbor's phone. However, it is fairly certain if the second CLEC is also serving the entire state with one switch, as Mr. Weber suggests, this call's total route would far exceed the 1,200 miles experienced even in the best case scenario. It is clear from these examples that "technically feasible" may create neither a practical or logical solution.

Q. ARE THERE ANY 911 OR OTHER CONSIDERATIONS IN THE CASE WHERE A CLEC IS SERVING AN ENTIRE STATE WITH ONE SWITCH?

A. Yes, a network architecture that has a CLEC serving an entire state with a single switch does not allow the CLEC to easily or economically comply with the alternate or diverse routing and diverse facilities needed in order to avoid single points of failure on the 911 network as described in the July 11, 2003 publication of the National Emergency Number Association's ("NENA") "Technical Information Document on Network Quality Assurance."[6]

Q. IN HIS TESTIMONY, MR. WEBER DESCRIBES THREE PRIMARY NETWORK ARRANGEMENTS THAT HE CLAIMS ARE APPROPRIATE TO CONNECT MASS MARKET CUSTOMERS TO THE CLEC SWITCH IN THE ABSENCE OF UNBUNDLED SWITCHING. ARE YOU FAMILIAR WITH THE THREE ARRANGEMENTS HE DESCRIBES?

A. Yes, he describes CLEC potential use of: (a) EELs, (b) DLC and (c) RSUs. Each of these arrangements are loaded with significant backhaul costs that only the CLEC must bear and somehow spread over far fewer customers than the ILEC enjoys.

[6] This document can be obtained from the NENA website, http://www.nena9-1-1.org/

A. Enhanced Extended Loops (EELs) Arrangements

Q. WHAT IS YOUR OPINION OF MR. WEBER'S SUGGESTED CLEC USE OF EELS TO CONNECT THE CUSTOMER LOOP TO THE CLEC SWITCH?

A. The FCC describes EELs as consisting of loop and transport elements that may or may not include multiplexing capabilities.[7] In reality, to serve the mass market a CLEC must also purchase multiplexing from the ILEC otherwise the loop cannot be extended without impacting voice quality.[8] Mr. Weber asserts that an EEL arrangement is most efficient at a remote wire center when the demand is small.[9] I do not agree that an EEL arrangement can be described as an "efficient arrangement" under any circumstance. This is because EELs do not generally allow for any concentration of the voice grade signal traveling from central office

[7] TRO at ¶ 575.
[8] Not purchasing multiplexing only applies to DS1 loops extended to some distant location with a DS1 EEL transport.
[9] Joseph H. Weber Direct Testimony at 8, lns. 5 – 6.

to the CLEC's switch.[10] This lack of concentration is an inefficient use of the transport facilities and the CLEC's switch ports.

Concentration essentially allows a carrier to take advantage of the fact that not all customers are using their phones at the same time; thus, the CLEC does not have to provide each customer with a dedicated transport channel between the central office where the loop terminates and the CLEC's switch location. Without concentration, the DS1 EEL transport running from Qwest's remote central office, where the CLEC is not collocated to the "home central office" where the EEL is connected to the CLEC's collocated equipment for ultimate transport from the "home central office" to the CLEC switch (as shown on "Figure 1" of page 8 in Mr. Weber's testimony) represents an entire capacity of 24 voice grade lines, or stated another way 24 loops. Thus, the CLEC pays for far more capacity than it really needs. Furthermore, the one-to-one ratio of transport capacity to unbundled loops means that as soon as the CLEC acquires its 25th customer, the entire cycle of inefficient transport facility utilization begins again on the next transport facility.

[10] Although Qwest's Exhibit A to its SGAT offers concentration on an "ICB" (individual case basis); all that is clear from such an offering is that a CLEC might obtain it if available and it might not. Moreover, it could take an enormous amount of time negotiating for this service because it is only offered on an ICB basis and there are no intervals or other parameters that would require timely performance. In all likelihood the CLEC would have to provide its own virtually collocated concentration equipment. If a CLEC had to go to these lengths, it might as well virtually collocate DLC equipment, which as stated by Mr. Weber is not economical for small demand in the mass market situation.

Thus, the EELs are not operationally or economically viable for mass market customer service. Here again, though the EEL design described by Mr. Weber is technically feasible, the use of this design is generally not a practical solution when attempting to serve the mass market even where demand for one's service is small.

Q. DOES THIS INEFFICIENT USE OF TRANSPORT FACILITIES HAVE AN IMPACT ON THE CLEC'S ABILITY TO SERVE A SMALL NUMBER OF CUSTOMERS?

A. Yes, even though the CLEC avoids collocation costs with this arrangement, it must still lease from Qwest the entire EEL transport facility and other equipment regardless of how well or quickly its market is developing in the central office where this arrangement is used. For example, the EEL transport piece is leased under two rate elements: a recurring fixed charge and a recurring per mile charge. According to Qwest's SGAT, Exhibit A, the two rate elements are: $ 33.12 for the monthly fixed costs and $ 2.30 per mile for facilities that are between 25 and 50 miles long.[11] Assuming we don't adopt the 600 mile scenario suggested by Mr. Weber, but rather imagine the CLEC's nearest collocated facility is 40 miles from the central office being served by an EEL, as soon as the CLEC wins its first customer, it must pay Qwest the $ 33.12 recurring fixed rate plus a recurring per

[11] The per mile cost is a sliding scale with a low of $ 0.51 per mile for transport facilities less than 8 miles, $ 0.65 per mile for facilities between 8 and 25 miles long, $ 2.30 per mile for facilities between 25 and 50 miles long and $ 2.70 per mile for facilities that are greater than 50 miles. In the case of the CLEC switch being 600 miles away, the per mile costs quickly add up.

mile charge of $ 92.00 ($ 2.30 X 40 miles) for a total of $ 125.12. And this represents only the EEL transport rates and not the EEL "link" or loop with multiplexing the CLEC would need as well.

Q. HOW MUCH EXPENSE DOES THE LINK OR LOOP AND MULTIPLEXING RATES ADD TO THE EEL TRANSPORT RATES?

A. The CLEC has to pay the monthly recurring multiplexing charge of $175.23 and the monthly EEL link charge. The link rates range from a low of $6.05 to a high of $18.70, depending on the rate zone the customer is in. Given the above example, acquiring just one mass market customer will cost the CLEC a minimum total of $ 306.40 ($ 125.12 + $ 175.23 + $ 6.05) per month simply to connect the customer to the CLEC's switch. Even when the DS1 facility is fully loaded to its capacity and the multiplexing and facility costs of $ 300.35 ($125.12 + $174.23) are spread across all 24 customers, it will cost the CLEC an additional $12.51 per customer (plus the cost of the EEL link) just to connect the customer to the CLEC switch. However, because the CLEC must be prepared to serve the 25^{th} customer with an additional transport facility, which starts the entire cycle all over again, the CLEC will never be in a position of full utilization, making the EEL an inefficient arrangement for serving any number of mass market customers.

Q. YOU ALSO INDICATED THAT AN EEL ARRANGEMENT IS AN INEFFICIENT USE OF THE SWITCH PORTS ON THE CLEC'S SWITCH. PLEASE EXPLAIN WHAT A SWITCH PORT IS AND HOW EELS USE THEM INEFFICIENTLY.

A. The switch port is the equipment on the CLEC's switch where the customer's loop terminates. In the case of an EEL, as depicted by Figure 1 in Mr. Weber's testimony, the EEL facility is connected directly to a DS1 port on the CLEC's switch. Because of the lack of concentration associated with an EEL each DS1 facility will require a DS1 switch port on the CLEC's switch. In contrast, when equipment that provides concentration capabilities, such as a DLC is used, the CLEC may use the same switch port more efficiently than with the one-to-one ration required by an EEL. When a CLEC uses other arrangements, such as collocated DLC equipment, to extend loops to its distantly located switch, the CLEC takes advantage of the fact that most of the time telephones are sitting idle and all customers are not seeking to use their phones at the same time. This allows the CLEC to use the concentration features of the DLC equipment to eliminate the one-to-one facility to loop ratio that an EEL requires and to use a more efficient ratio, typically a four-to-one ratio, to achieve better utilization of both the transport facilities and switch ports.

Q. PLEASE PROVIDE AN EXAMPLE OF THE IMPACT THAT THIS LACK OF CONCENTRATION HAS ON FACILITY AND EQUIPMENT UTILIZATION.

A. In this example I will assume that there are two CLECs serving customers in central office X. CLEC A is using EELs to extend its customer's loops to its switch and CLEC B is using collocated DLC equipment. For ease of illustration, I'm going to assume that both CLECs are serving 96 customers. To serve its 96 customers CLEC A must use four DS1 facilities (96 loops divided by 24 loops per DS1 non-concentrated capacity) and four switch ports on its switch, one for each DS1. Whereas, CLEC B using a 4-to-1 concentration ratio is able to serve its 96 customers with one DS1 and one switch port on its switch.

B. Digital Loop Carrier (DLC) Arrangements

Q. TURNING TO MR. WEBER'S SECOND PROPOSAL, THE CLEC'S USE OF DIGITAL LOOP CARRIERS, WOULD YOU PLEASE BRIEFLY REMIND US WHAT A "DLC" IS AND WHAT IT DOES.

A. As Mr. Weber notes, a DLC system collects "a group of analog telephone lines and efficiently convert[s] them to digital transmission formats."[12] He also adequately describes their purpose when he says: "[t]hey basically concentrate mass market telephone lines by taking advantage of the statistical properties of

[12] Joseph H. Weber Direct Testimony at 9, lns. 15 – 16.

telephone usage (everybody does not use the phone at the same time) and allow the calls to be carried to the switch using efficient digital transmission systems."[13] This provides the very concentration capability that the EEL lacks.

Q. ARE YOU SUGGESTING THAT DLCS ARE AN EFFICIENT METHOD THAT CLECS MAY USE TO EXTEND CUSTOMER LOOPS TO THE DISTANTLY LOCATED CLEC SWITCH?

A. No. All I'm suggesting is that it is more efficient than using EELs. However, because of all of the collocation space; collocated equipment, including the DLC equipment, multiplexing equipment and facility termination equipment; and the backhaul facilities, serving mass market customers using collocated DLC equipment is not at all an efficient or an economically viable method for competing with Qwest for mass market customers. Just because DLC is "queen of the pigs" when compared to EELs, this Commission should not assume that it is a viable solution for mass market competition. All the equipment and backhaul facilities inject potential points of failure into the CLEC's excessively long "loop." CLECs still suffer operational and economic impairments trying to serve a smaller customer base that most likely won't be able to or want to pay the higher CLEC costs associated with all the equipment necessary to pick up the loop and take it back to the CLEC switch.

[13] *Id.* at 9, lns. 18 – 21.

C. Remote Switching Unit (RSU) Arrangements

Q. LET'S TURN NOW TO THE LAST METHOD MR. WEBER PROPOSES FOR CLECS TO CONNECT THEIR SWITCHES TO MASS MARKET CUSTOMERS' LOOPS. DO YOU HAVE ANY COMMENTS REGARDING THE USE OF REMOTE SWITCHING UNITS?

A. Yes. All an RSU does is replace the cost of the DLC equipment with the cost of the equipment needed for the RSU. Using an RSU in lieu of DLC equipment does not eliminate the costs for collocation space, collocated equipment or backhaul facilities, nor does it eliminate any of the operational impairment associated with these arrangements. Additionally, because the up front common costs of an RSU are higher than using the DLC, a CLEC must take a gamble when installing this equipment that it will win enough of a market share in the given central office to make this investment more economical than using DLC. The CLEC cannot install DLC equipment and then replace it with RSU when it becomes more economical to do so. This is an engineering decision that must be made up-front.

Q. MR. WEBER CLAIMS THAT THE RSU WILL REQUIRE LESS TRANSMISSION CAPACITY BECAUSE IT DOES NOT NEED TO TRANSPORT TRAFFIC THAT BOTH ORIGINATES AND TERMINATES IN THE SAME CENTRAL OFFICE.[14] DO YOU AGREE?

A. While I agree that, in some cases, there is no need for the RSU to transport this traffic back to the host switch, I do not agree that it will result in any meaningful savings in transport equipment capacity for the CLEC. One must keep in mind that this efficiency works well for Qwest when it uses an RSU because, generally speaking, Qwest serves 100 percent of the customers that are connected to the RSU. Therefore, when one customer calls another customer and both are served by the RSU, the RSU can complete that call without involving the host switch. The CLECs, on the other hand, can only expect to serve a small portion of the customers within any given central office. The CLEC will be able to take advantage of this capability of the RSU only when a customer of that CLEC makes a call to another customer served by the same CLEC in the same central office. Obviously, this calling scenario will be the rare exception, and the vast majority of the CLEC's traffic will have to be transported back to the distantly located host switch for call processing.

[14] *Id.* at 14, lns. 1-4.

Q. IS THERE ANYTHING ELSE ABOUT RSUS THAT MAKE THEM IMPRACTICAL FOR USE IN QWEST'S TERRITORY?

A. Yes, but it has to do with Qwest's SGAT restrictions and not the equipment itself. That is, Qwest SGAT states:

> 8.2.1.2 Collocation of Switching Equipment. CLEC may collocate any equipment that is necessary for Interconnection or access to Unbundled Network Elements.
>
> * * *
>
> 8.2.1.2.3 Remote Switching Unites (RSUs) also meet this legal standard when used for interconnection or access to Unbundled Network Elements *for purposes of providing Local Exchange Service*.[15]

Qwest defines "Exchange Service" to mean calls originating and terminating in local calling areas defined by the Commission for Qwest.[16] Thus, CLECs employing Qwest's SGAT terms in their interconnection agreements are apparently barred from using RSUs for any traffic other than local traffic. Such a restriction makes RSUs utterly useless to the CLEC.

[15] Exhibit DLP-2, attached to Mr. Pappas' Direct Testimony at 7; *see also,* WA SGAT, 8th Rev. (June 25, 2002) at 79 (emphasis added).
[16] WA SGAT, 8th Rev. (June 25, 2002) Section 4 at 16; *see also, In the Matter of the Petition for Arbitration of AT&T Communications of the Pacific Northwest and TCG Seattle with Qwest Corporation Pursuant to 47 USC § 252(b)*,Docket No. UT-033035, Direct Testimony of Thomas R. Freegerg at 15-17.

Q. IF THE CLEC EMPLOYED ANY MIX OF THE LOOP ARRANGEMENTS DESCRIBED BY MR. WEBER TO INCREASE UTILIZATION OF ITS SWITCH, WOULD THESE ARRANGEMENTS—TAKEN TOGETHER—CREATE AN EFFICIENT USE OF THE CLEC NETWORK SUCH THAT THE CLEC COULD AVOID ANY OF THE OPERATIONAL AND ECONOMIC IMPAIRMENTS YOU'VE DESCRIBED?

A. No. Just because a CLEC can potentially increase utilization of its switch with lines from all across the State, such use does not constitute an economic or efficient architecture. Even putting the economic barriers associated with the backhaul costs aside, there is nothing orderly or efficient about calls traversing hundreds of miles just to get to the CLEC switch, and the manual hot cut process only serves to increase the operational impairments. As one who has over thirty-three years of telecommunications experience in an industry that always put customer service in the forefront, I am appalled by the fact that Qwest is promoting an agenda which uses a completely manual process to migrate customers from one carrier to another. How Mr. Weber can believe that the process for migrating 21st century customers using manual cross connections on a main distribution frame architecture that was first patented in the 19th century is orderly and efficient is beyond my comprehension.

Q. I HAVE ONLY TWO QUESTIONS REMAINING BOTH REGARDING MR. WEBER'S ASSERTIONS ABOUT ACTUAL CLEC SWITCH AVAILABILITY IN THE STATE. FIRST, WHAT DOES THE NUMBER OF CLEC SWITCHES FOUND EITHER IN THE LERG OR IN ANY OTHER COMPILIATION REALLY MEAN, IF ANYTHING, FOR THE COMMISSION'S ANALYSIS OF OPERATIONAL IMPAIRMENT?

A. The issue is not how many switches CLECs have in the network; the issue is that these switches are not located where the mass market customer's loops terminate. Because of all the operational and economic impairments associated with the backhaul facilities necessary to extend these customer loops to the CLEC switches and the manual process used by Qwest to connect these loops to the CLEC switch, one cannot assume—as Mr. Weber does—that CLECs are, or ever will be, in a position to serve the mass market with UNE loops under the architectures and hot cut proposals being put forth by Qwest today.

Q. FINALLY, MR. WEBER ASSERTS THAT BECAUSE CLECS ARE ASKING QWEST TO PAY TANDEM SWITCHING RATES FOR QWEST'S USE OF THEIR SWITCHES, SUCH REQUEST IS EVIDENCE THAT CLECS CAN AND ARE SERVING AN ENTIRE LATA WITH THOSE SWITCHES.[17] DO YOU AGREE?

A. Mr. Weber confuses the FCC's standard, employed in the arbitration proceedings, for CLECs' acquiring the tandem rate from ILECs with the FCC's impairment analysis in this proceeding. That is, the FCC's rule regarding Qwest, or any ILEC, paying the tandem rate is as follows:

> Where the switch of a carrier other than an incumbent LEC serves a geographic area comparable to the area served by the incumbent LEC's tandem switch, the appropriate rate for the carrier other than an incumbent LEC is the incumbent LEC's tandem interconnection rate.[18]

This rule generated a lot of confusion over what precisely the FCC meant by "serves a geographic area comparable to the area served by" the ILEC. Eventually, the FCC provided several clarifying interpretations of its own rule. It essentially said that CLEC's switches need not be functionally equivalent to the ILEC tandem and CLEC's need not prove that they are <u>actually</u> serving customers

[17] *Id.* at 21, ln. 6 – 22, ln. 17.
[18] 47 CFR § 51.711(a)(3).

throughout the comparable geographic area;[19] rather, the CLEC need only show that its switch is "capable of" serving a comparable area. Mr. Weber has shown that some switches are indeed "capable of" serving the entire State, not just a LATA. That, however, is not particularly relevant to the analysis here.

Here, the FCC is concerned with operational and economic impairment such that it wants States to determine whether CLECs can actually serve mass market customers without unbundled switching. So, even if the switch is capable of serving an entire state, the question is whether it makes operational and economic sense for the CLEC to choose that business case.

III. MR. PAPPAS ON COLLOCATION AND CLEC CROSS CONNECTS

Q. WHAT IS YOUR OVERALL IMPRESSION OF MR. PAPPA'S TESTIMONY?

A. Mr. Pappas focuses on examining CLEC impairment regarding collocation availability and provisioning along with the availability of CLEC cross connects. Not surprisingly he concludes that the CLECs are not impaired. I believe, however, Mr. Pappas has overlooked a number of operational impairments CLECs face in relation to collocation and I also believe he may have overstated

[19] *In the Matter of Developing a Unified Intercarrier Compensation Regime*, Notice of Proposed Rule Making, CC Docket No. 01-92 (Rel. Apr. 27, 2001) at ¶ 105 ("*Intercarrier Compensation NPRM*"); *In the Matter of the Petition of AT&T Communications of Virginia, Inc., pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc*., Memorandum Opinion and Order, CC Docket No. 00-251 at ¶ 309 (Rel. July 17, 2002) ("*Virginia Arbitration Order*").

Qwest's collocation installation performance by overlooking the current low demand for collocation and glut of vacant collocation spaces due to CLEC bankruptcies and business failures.

Q. WHAT OTHER OPERATIONAL IMPAIRMENTS DID MR. PAPPAS OVERLOOK IN RELATION TO COLLOCATION?

A. Though I agree with Mr. Pappas that collocation availability and installation performance are potential impairments, he has overlooked the CLEC's ability to obtain the necessary financing to purchase all the equipment it will need for the multiple collocations it must install if it loses switching. Similarly, Mr. Pappas has overlooked Qwest's real space availability if more CLECs must collocate and its ability to meet collocation installation volumes that would dramatically increase if CLECs were forced to serve the mass market with their own switches.[20]

Q. MR. PAPPAS CONCLUDES THAT COLLOCATION CONCERNS DO NOT CREATE ANY ARGUABLE OPERATIONAL IMPAIRMENT FOR CLES IN THE STATE.[21] DO YOU AGREE WITH MR. PAPPAS THAT THE MATERIAL HE RELIES UPON SUPPORTS HIS CONCLUSION?

A. No, I do not. All Mr. Pappas' testimony was able to prove is that Qwest may be capable of keeping up with its collocation activity at the current volumes. Based

[20] This, of course, assumes CLECs would continue to serve the mass market if switching were lost. It may be that CLECs simply cease service all together.
[21] See page 4, lines 5-7 and page 12, lines 12 & 13 of the Pappas testimony.

on Qwest's latest reported results of the CP-2 A, B and C PIDS,[22] during the 12 month period from December '02 through November '03, Qwest provisioned a total of 101 collocation arrangements in the State. This amounts to an average of about 8.5 collocations per month. Considering, these collocation arrangements were established before it was contemplated that they would be needed to serve the mass market and there are CLECs who serve UNE-P customers that have no collocation arrangements at all, Qwest is going to experience a drastic increase in requests for both augments to existing collocation arrangements and requests for new collocation arrangements throughout its service area. This unprecedented spike in collocation activity makes it is difficult to imagine that Qwest will be able to maintain the same performance it does at today's modest level of activity.

Q. ARE THERE OTHER FACTORS THAT MIGHT AID QWEST IN MEETING ITS COLLOCATION INSTALLATIONS AT THE CURRENT LEVELS?

A. Yes. In the last several years many CLECs operating in Qwest's 14-state region have gone through bankruptcy or simply gone out of business.[23] Of these CLECs a number of them surrendered collocation space back to Qwest, and AT&T itself has decommissioned (*i.e.*, returned collocation space) to Qwest. Thus, I believe it

[22] This figure is based on the CP-2B and 2C results only as Qwest did not have any reported results for the CP-2A PID (collocations complete within scheduled interval – forecasted collocations).
[23] Allegiance Telecom (Chapter 11); WorldCom (Chapter 11); E-Spire (out of business); McLeodUSA (Chapter 11); Global Crossing (Chapter 11); Rhythms (out of business); Covad (Chapter 11); Northpoint (out of business).

is easier for Qwest to meet its collocation obligations where demand is moderate and it can simply place a new CLEC into a vacant collocation space.[24]

Q. MR. PAPPAS INDICATES THAT SPACE AVAILABILITY IN WASHINGTON IS NOT AN ISSUE WITH QWEST HAVING ONLY ONE CENTRAL OFFICE IN THE STATE LACKING COLLOCATION SPACE.[25] HAS QWEST CONDUCTED ANY SPECIAL SYUDIES WITH WHICH MR. PAPPAS CAN MAKE THIS DETERMINATION?

A. No. Apparently Mr. Pappas is making this assumption about space availability based on the information from the Qwest web site referenced on page 7, line 3 of his testimony; there Mr. Pappas concludes "[b]ased on the publicly available website, there is only one Qwest central office in Washington where collocation space is an issue."[26] When AT&T inquired in Interrogatory Request AT&T 01-087e, about the total amount of space available for collocators in each Qwest central office, Qwest responded; "total amount of collocation space is not listed on the website and obtaining that information would require a special study." Thus, the "publicly available information" may render a different result than what Qwest actually has available in WA.

[24] **Exhibits RVF 18 & 19**, Qwest's Collocation Availability Inventory and Collocation Classifieds, respectively.
[25] Dennis Pappas Direct Testimony at 7, lns. 25 – 26.
[26] *Id*.

Q. DOES QWEST'S RESPONSE SUGGEST ANYTHING ELSE TO YOU?

A. This response tells me that all Qwest can say with any certainty is that it has ***some*** collocation space available in each central office. However, Qwest has no clue whether it has ***sufficient*** space to accommodate the requests for growth or for new collocation arrangements that it will be getting from CLECS who are serving customers using UNE-P in Washington central offices. Until Qwest can make a showing that such a study has been conducted and Qwest can report on exactly how much space is available, this Commission cannot assume that there are no operational impairment issues associated with collocation as Mr. Pappas would like the Commission to believe.

Q. MR. PAPPAS STATES ON PAGE 7, LINES 26 -28 AND ON PAGE 8, LINES 1-4, THAT IN MOST CASES IF NO PHYSICAL SPACE WERE AVAILABLE FOR TRADITIONAL CAGED OR CAGELESS COLLOCATION, QWEST CAN PROVISION ICDF, SHARED OR VIRTUAL COLLOCATION ARRANGEMENTS. WHAT IS YOUR REACTION TO THIS STATEMENT?

A. As an initial matter, Qwest has essentially put itself in the position to dictate the type of collocation arrangement a CLEC must use to serve its customers when it suggests these alternatives are somehow acceptable over the more secure physical

collocation arrangements.[27] Physical collocation has the advantage of allowing the CLEC to maintain its own equipment and reduces actual access to such equipment by other carriers.

Second, of the three alternative options offered by Qwest when physical space is not available, virtual collocation is the only realistic alternative.[28] Virtual collocation, at least on its face, purports to allow only Qwest to maintain and operate the equipment even though the equipment itself sits in bays open to anyone walking by.

Q. WHY IS THE INTERCONNECTION DISTRIBUTION FRAME ("ICDF") COLLOCATION UNACCEPTABLE?

A. Because, in addition to the confusion over its use (which I'll address shortly), ICDF suffers from similar problems created by Qwest's "SPOT" frame proposal. That is, multiple CLECs have access to and work on the ICDF. This increases the likelihood that one CLEC inadvertently or otherwise disconnects another's customers by knocking wires off the frame. In addition, it adds numerous potential points of failure with the jumper connection points between the vertical and horizontal terminations on the frame.

[27] While the SGAT, Section 8.2.6 does allow for adjacent physical collocation, which CLECs would likely order only if space within the central office proper is exhausted, I assume that Mr. Weber in his statements has assumed that adjacent physical collocation is not an option. That said, adjacent physical collocation itself creates several potential problems for the CLEC by potentially increasing the cost, inefficiency and delay of obtaining collocation.

[28] By "realistic" I mean most useful and I do not mean to imply that virtual collocation is an acceptable alternative. Only that this is the only option that will be available to the CLECs should a central office have no physical space available.

Q. TO WHAT CONFUSION ARE YOU REFERRING REGARDING ICDF?

A. Mr. Pappas states "[t]he ICDF has both vertical and horizontal terminations. The CLEC's tie cables *to their collocation* termination on the vertical side of the frame while the tie cable connecting to the COSMIC or MDF connect to the horizontal side of the ICDF."[29] He also says, "Qwest can provision ICDF … for the CLEC, even if there is not space available for traditional caged or cageless physical collocation."[30] Precisely what "collocation" CLECs are supposed to run their tie cables to from the vertical side of the ICDF is unclear. If there is no space for physical collocation, the only thing left is virtual collocation. However, the SGAT says CLECs are responsible for making their own ICDF jumper connections[31] and in virtual collocation Qwest is responsible for installation and maintenance such that the CLEC has no contract with its virtually collocated equipment.[32] Perhaps all the CLEC may do is create its own EEL (e.g., combining UNE loops, multiplexing and transport) on the ICDF. Obviously this has all the problems I've discussed in relation to the EEL with the added points of failure injected through use of an intermediary frame (the ICDF).

[29] Dennis Pappas Direct Testimony at 9, lns. 2 –5 (emphasis added).
[30] *Id.* at 8, lns. 1 – 3; *see also*, WA SGAT 8th Rev. (June 25, 2002) at 93 Section 8.2.5.1 (ICDF is available for CLECs who have not obtained caged or cageless physical collocation).
[31] WA SGAT 8th Rev. (June 25, 2002) at 94, Section 8.2.5.3.
[32] *Id.* at 8.2.2.2 ("CLECs will not have physical access to the virtually collocated equipment in the Qwest premises)".

Q. IS A SHARED COLLOCATION OPPORTUNITY ANY BETTER?

A. Yes, but one can expect that if the central office is full, most CLECs may be thinking they had better retain their space for future needs instead of subletting it. It is highly unlikely that a CLEC that needs collocation space would be willing to lease such space from another CLEC for a very limited period of time. Thus, the offer of a sharing opportunity is limited at best.

Q. ARE THERE OTHER COLLOCATION RELATED ISSUES THAT WERE NOT ADDRESSED BY QWEST THAT THIS COMMISSION SHOULD CONSIDER?

A. Yes. Mr. Pappas assumes a frictionless collocation experience in which none of the real world difficulties of supply, resource and logistics apply. That is, for those CLECs employing UNE-P only or those who provide the majority of their service offer to the mass market using UNE-P, these CLECs will need to secure the capital necessary to install their own switches (or augment existing switches) and other equipment and build out the backhaul facilities that they will require for their collocated facilities if they move to a UNE loop provisioned service.[33] Even under the unlikely assumption that Qwest will have all of the collocation space that will be necessary in an environment where the mass market must be served by UNE-loops, this space will be of little use to the CLECs unless they can get the

[33] Given the state of the telecommunications industry as a whole and the number of telecommunications company bankruptcies that lending institutions have endured over the past 3 years it may be difficult, if not impossible, for many companies to raise the capital that they will need for these facilities.

financing that they need to build out their respective networks. Unless a finding of non-impairment is intended to drive most CLECs out-of-business and thereby reduce competitive options for the customers in the State, the Commission should consider all aspects of collocation, from financing to adequate space availability and more. Considering space availability and Qwest's performance in a vacuum, as Mr. Pappas has done, will not convey the "collocation" reality most CLECs face nor inform the Commission of the real consequences should it remove switching from the ILECs' unbundling obligations.

IV. MR. EASTON ON QWEST'S UNE LOOP, UNE SWITCHING AND RESALE PRODUCTS

Q. WHAT IS YOUR OVERALL IMPRESSION OF MR. EASTON'S TESTIMONY?

A. In his testimony, Mr. Easton purports to addresses unbundled switching, unbundled loops and resale. He also claims to address the transition process proposed by Qwest should the Commission remove unbundled switching from the CLECs' use. Because all he does is refer the reader to the FCC's transition schedule[34] and the Batch Hot Cut proceeding instead of providing any substantive transition process, I will ignore this portion of his testimony and eventually address such a transition process when it actually exists.

[34] TRO at ¶ 532; here the FCC instructs the carriers to, assuming the state commissions find no impairment, "have a [transition] plan in place within 11 months of the effective date of this Order."

What Mr. Easton's testimony actually does is demonstrate the success of UNE-P[35] and the relatively miniscule amount of resale in Washington. The line counts he reports for UNE-P, UNE-L and resale reveal that the CLECs' preferred method of serving mass market customers (and some unknown quantity of enterprise customers) is very likely UNE-P and certainly not resale.

Q. MR. EASTON CLAIMS "CLECS CAN COMBINE UNE-L WITH CLEC-PROVIDED CIRCUIT SWITCHING (OR CIRCUIT SWITCHING LEASED FROM A THIRD PARTY) AND TRANSPORT, AND CAN PROVIDE THE SAME (OR COMPARABLY THE SAME) SERVICES TO THEIR END USERS AS IS CURRENTLY BEING PROVIDED VIA UNE-P."[36] DO YOU AGREE WITH MR. EASTON'S CHARACTERIZATION OF THESE TWO SERVICE OPTIONS?

A. While I agree with Mr. Easton that CLECs are capable of providing service to end users employing a UNE-L configuration, I do not agree that the service is necessarily the "same (or comparably the same)." Service provided using UNE-P is a more efficient and more economical configuration for the CLEC to serve the mass market. Service provided using UNE-L is more costly, subject to more potential service quality problems and less efficient. Simply put, the costs and

[35] *Request for Competitive Classification of Basic Business Exchange Telecommunications*, Docket No. UT-030614, Rebuttal Testimony of Harry M. Shooshan at 2 & 8 (arguing that UNE-based competition (including UNE-P) constitutes effective competition); Rebuttal Testimony of David L. Teitzel at 7 (noting the benefit of CLECs' ability to employ UNE-p to minimize capital investment while they build customer base).

[36] William R. Easton Direct Testimony at 4, lns. 4-6,

operational difficulties of using UNE-L as described in my direct testimony and this rebuttal testimony—not to mention the testimony of AT&T cost witnesses Mr. Denney and Ms. Starr, demonstrates that use of UNE-L for serving the mass market instead of UNE-P is not the same or even realistically comparable.

Q. MR. EASTON ALSO CLAIMS THAT RESALE IS "FUNCTIONALLY EQUIVALENT TO UNE-P PRODUCTS," AND AS SUCH "WOULD PROVIDE THE SAME SERVICE TO CLECS' END USERS AS THE EQUIVALENT UNE-P PRODUCT."[37] DO YOU AGREE?

A. No. With resale all the CLEC is able to offer its end user customers is the identical local service Qwest offers its retail customers. With UNE-P, the CLEC not only provides local service to the end user, but—by employing the virtual switch it purchases from Qwest as an unbundled element—the CLEC is also the provider of access services to the long distance carriers, and the CLEC may add features and functions not offered by Qwest's retail service. Additionally, with UNE-P the CLECs are in a position of offering more flexible pricing plans to their end users and, as recognized by Mr. Easton in footnote 1 to his testimony, CLECs can offer their own enhanced features when using UNE-P. UNE-P options, which put the CLECs on competitive equal footing with Qwest, are not available with resold local service.

[37] *Id*. at 6, lns. 9 – 11.

Q. ARE THERE OTHER ISSUES WITH RESALE THAT MR. EASTON IGNORES?

A. Yes, economists will tell you that resale does not constrain Qwest's ability to raise prices[38] and CLECs—because their wholesale discount is tied to the retail rate—cannot distinguish their service or rates dramatically from Qwest's. Clearly, this is a lesser form of competition and moving the mass market to this form of competition would be a real step backwards.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, except I would only point out here that the testimonies of Mr. Weber, Mr. Pappas and Mr. Easton, while interesting, do not show a lack of impairment. Rather, they support the very points AT&T's witnesses make when discussing backhaul network difficulties and operational impairments that would be thrust upon CLECs should the Commission make a finding of no impairment.

[38] *Request for Competitive Classification of Basic Business Exchange Telecommunications*, Docket No. UT-030614, Direct Testimony of Susan Baldwin at 10 (concurring and quoting the Washington Commission regarding resale's inability to constrain Qwest pricing).