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February 27, 2004

VIA HAND DELIVERY

Hon. Deborah Taylor Tate, Chairman
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37238

Re: *Implementation of the Federal Communications Commission's Triennial Review Order (Nine-month Proceeding)(Switching)*
Docket No. 03-00491

Dear Chairman Tate:

Enclosed are the original and six paper copies and a CD Rom containing BellSouth's rebuttal testimony from the following witnesses:

Debra Aron (public version)	Kathy Blake
Eric Fogle	Wayne Gray
Keith Milner	Christopher Pleatsikas
Gary Tennyson	Al Varner

Dr. Aron's testimony contains proprietary information, and a complete version of her testimony containing that information is being submitted under separate cover subject to the terms of the Protective Order entered in this docket. Copies of the enclosed are being provided to counsel of record.

Very truly yours,

Guy M. Hicks

GMH:ch

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF ALPHONSO J. VARNER

BEFORE THE TENNESSEE REGULATORY AUTHORITY

FILED FEBRUARY 27, 2004

DOCKET NO. 03-00491

Q. PLEASE STATE YOUR NAME, YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH") AND YOUR BUSINESS ADDRESS.

A. My name is Alphonso J. Varner. I am employed by BellSouth as Assistant Vice President in Interconnection Services. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375.

Q. ARE YOU THE SAME ALPHONSO J. VARNER WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes I am.

Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My Rebuttal Testimony addresses various performance related issues raised by the MCI witnesses James Webber and Sherry Lichtenberg and AT&T witness Mark David Van De Water.

Q. MR. WEBBER STATES ON PAGE 48 OF HIS DIRECT TESTIMONY THAT EVEN IF CLECS WERE TO OBTAIN COLLOCATION, “IT IS NOT UNCOMMON TO EXPERIENCE SIGNIFICANT DELAYS” IN GAINING ACCESS TO IT. IS HE RIGHT?

A. No, and the lack of evidence corroborating Mr. Webber’s allegation is telling. The aggregate CLEC collocation performance results provided in my Direct Testimony demonstrate an excellent track record by BellSouth over the entire seven-month period reported. Specifically, BellSouth met 98% of collocation due dates (62 of 63 sub-metrics) in Tennessee from December 2002 through October 2003, which includes MCI.

Q. MR. WEBBER, ON PAGE 58 OF HIS DIRECT TESTIMONY, CONTENDS THAT THE INDUSTRY “DOES NOT HAVE MUCH EXPERIENCE WITH EELS USED TO SUPPORT DS0-BASED SERVICES.” HOW DO YOU RESPOND?

A. BellSouth provides services and measures its associated performance levels with respect to EELs according to what the CLECs order - whether DS-0, DS-1 or DS-3 loops. Currently, the vast majority of EELs ordered by CLECs are at the DS1 level; however, such EELs can be used to support DS0-based services. If he is simply referring to DS0 level EELs, that concern is neither relevant, nor does it establish that providing EELs at the DS0 level presents an insurmountable hurdle. In fact, it does not even establish that there is any hurdle at all. BellSouth has years of

experience in combining a loop and an interoffice facility and an EEL is simply one of these combinations. Examples are foreign exchange or central office lines, tie lines, PBX trunks, Special Access circuits, and off premise extensions. BellSouth has even more experience with DS0 services. There is nothing so complex about an EEL using a DS0 loop that would cause CLECs to become impaired. Indeed, if they prefer to order DS0 EELs rather than DS1 or DS3 the measurement process is in place to accommodate the orders and to monitor BellSouth's performance in meeting the Authority's established standards.

Q. ON PAGE 24, MS. LICHTENTBERG ALLEGES THAT BECAUSE BELLSOUTH'S HOT CUT PROCESS IS MANUAL, IT "OFTEN RESULT[S] IN ERRORS AND DELAYS." DOES THE DATA SUPPORT HER POSITION?

A. No. However, this issue should not be included in the Mass Market Switching Docket. There is a separate Hot Cut Proceeding, Docket 03-00526, which deals with this issue. Since this issue is included here, I will respond. Ms. Lichtenberg's uncorroborated position is directly contrary to the actual data. As discussed in my Direct Hot Cut Testimony for Docket 03-00526, looking at the three primary hot cut measurements in Tennessee (Coordinated Customer Conversions, Hot Cut Timeliness, and Provisioning Troubles within 7 days of Cutover), BellSouth achieved the established standard on 95% of the sub-metrics over the 11-month period provided (December 2002 to October 2003). Clearly, in light of these data

results, Ms. Lichtenberg's comments are unsubstantiated and should be given no weight in this proceeding.

Q. IS MS. LICHTENBERG'S CHARACTERIZATION (ON PAGES 35-36) OF INCREASED OUT OF SERVICE TIMES AND CUSTOMER HARM FROM TROUBLES IN A UNE-L ENVIRONMENT ACCURATE?

A. No, and again the performance results, as noted below, refute Ms. Lichtenberg's claim. Ms. Lichtenberg accurately states the major difference between UNE-L and UNE-P with respect to maintenance and repair is who is responsible for isolating the trouble between the loop and the switch. However, she greatly exaggerates the expected impact on the handling of trouble reports in the UNE-L environment. Most of the discussion includes complaints about the work that MCI would have to do in the UNE-L environment. Apparently, Ms. Lichtenberg would rather make BellSouth "fully responsible" for handling trouble reports, and relieve MCI of any meaningful responsibility to its own customers in this regard.

When a trouble is reported for UNE-P lines, the CLEC merely passes on any physical trouble to BellSouth, since the CLEC is simply reselling BellSouth's network with UNE-P. BellSouth then has to 'sectionalize' the trouble, just as the CLEC would under UNE-L, by determining whether the problem is in the switch, frame, loop etc., and whether a dispatch is necessary. By contrast, if the CLEC's customer is served on UNE-L, the CLEC can isolate and fix any troubles that are in its switch, collocation

space or transport, and BellSouth can concentrate on determining if there are any problems in the loop. Therefore, if the CLEC does a good job upfront of eliminating the switch, collocation or transport as the cause of the trouble, BellSouth can then concentrate on the loop. This should decrease, not increase, repair intervals. In this way, CLECs have greater control over the timeliness and quality of repairs for their customers, and it is baffling that CLECs would not want to avail themselves of this opportunity.

Ms. Lichtenberg's argument that if the CLEC is responsible for part of the trouble identification and resolution process the interval would be increased because of 'finger pointing' exercises is merely speculation. BellSouth has been providing UNE Loops and other services where cooperation between CLECs and BellSouth is required. Yet, Ms. Lichtenberg does not point to any tangible evidence to support her theory. Furthermore, it is unsubstantiated speculation if the CLEC does a good job of trouble isolation. Surely the mere possibility of certain administrative issues or predictions of poor performance by CLECs is no basis for finding that CLECs are impaired without access to unbundled switching.

Q. HOW IS BELLSOUTH'S PERFORMANCE FOR MAINTENANCE AND REPAIR FOR UNE-L COMPARED TO UNE-P?

A. As a preliminary matter, it should be pointed out that using UNE-P performance results as the standard for assessing UNE-L performance is

not appropriate because the two products are not analogous. The relevant approach is to compare UNE-P or UNE-L to its respective retail analog as was done in my Direct Testimony. Nonetheless, if we compare the Customer Trouble Report Rate (CTRR) and Maintenance Average Duration (MAD) interval for UNE-P and 2W Analog Loops sub-metrics in Tennessee for December 2002 through October 2003 there is no indication of a problem with UNE-L maintenance performance. CTRR and MAD are used because they are considered two of the major indicators of performance in the maintenance and repair environment. As noted in my Direct Testimony, these two measurements pertain to trouble reports, which may not necessarily mean there was an actual out-of-service or service affecting condition.

For the period from December 2002 through October 2003, the average customer trouble report rate (CTRR) was 2.09% for UNE-P and 0.91 % for UNE-L. In other words, both UNE-P and UNE-L customers experience at least 98% trouble-free service. Similarly, for the same period, December 2002 through October 2003, the maintenance average duration (MAD), which is the average amount of time required to fix a trouble, contradicts her assertion. Where the trouble required the dispatch of a technician, the repair interval for UNE-P was 24.54 hours and 8.3 hours for 2W Analog Loops. For those cases where no dispatch was required, the repair interval for UNE-P was 7.5 hours versus 3.2 hours for 2W Analog Loops. BellSouth met parity for 100% of the sub-metrics for CTRR and MAD for both UNE-P and UNE-L during this period.

Based on these results, the current environment shows that UNE-L maintenance and repair results are as good as, and in some instances better than, UNE-P maintenance and repair results. Granted, the UNE-L volumes are not as significant as they will be if UNE-P is no longer available; however, there is no reason to believe that the increase in volume would suddenly make UNE-L performance decline substantially. In fact, the increased volume may actually improve the level of performance due to more repetition. But, the important point is that any supposition that maintenance and repair performance will deteriorate based on conversions from UNE-P to UNE-L is not supported by the facts.

Q. MS. LICHTENBERG IN HER DIRECT TESTIMONY ALLEGES THAT THE LNP PROCESS WILL BE COMPLICATED BY MIGRATIONS TO UNE-L AND, ON PAGE 43 OF HER TESTIMONY, SUGGESTS A NEED TO "DEVELOP METRICS FOR THE COMPLETION OF NUMBER PORTABILITY TASKS." PLEASE RESPOND.

A. There is no need to "develop" metrics to capture number portability performance. BellSouth already reports Local Number Portability (LNP) results via three measurements: P13B, Percent Out of Service < 60 Minutes; P-13C, Percentage of Time BellSouth Applies the 10-Digit Trigger Prior to the LNP Order Due Date; and, P-13D, LNP-Average Disconnect Timeliness Interval (Non-Trigger). These measures are certainly more than sufficient to capture any potential problems related to

local number portability. Further, as part of my Direct Testimony I provided detailed analysis of the BellSouth's performance with respect to LNP in Exhibit AJV-1. The performance results provided in that exhibit show that there are no meaningful performance problems in this area. BellSouth does not expect a significant impact on LNP performance based on anticipated increases in UNE-L orders.

Q. ON PAGES 8 AND 9, MR. VAN DE WATER ALLEGES "SUBSTANDARD PERFORMANCE IN RETURNING TIMELY FIRM ORDER CONFIRMATIONS", AND OTHER FAILURES RELATED TO THE SCHEDULING OF HOT CUTS AND "ERRONEOUS DISCONNECTION OF END USERS' LINES", AND "UNDUE DELAY IN RECONNECTION." DO THESE ALLEGATIONS HAVE ANY MERIT?

A. No. Much of Mr. Van De Water's assertions are conjecture or distortions of the facts. Although Mr. De Water provides little or no specifics to support his conclusions, I will attempt to respond to these issues in order. Where Mr. Van De Water alleges that there are delays in returning Firm Order Confirmations, the facts tell a completely different story. As noted on page 15 of my Direct Testimony, for the period December 2002 to October 2003, over 94% of the LSRs for UNE Loop Orders (which include hot cuts orders) received a Firm Order Confirmation (FOC) within the intervals established by this Authority. For AT&T alone, for the period June through October 2003, 97% of AT&T's Loop LSRs received a FOC within the established intervals. Moreover, the average FOC interval for

AT&T's LSRs was 1.2 hours for June through October 2003. This average was for all LSRs including those processed electronically (where the Authority standard is 3 hours) and those processed manually, where the Authority standard ranges from 10 hours (for Partially Mechanized) to 24 hours (for Non-mechanized).

In response to Mr. Van De Water's belief that BellSouth has not provided a 'reliable schedule for performing hot cuts' this belief is, once again, not supported by the facts. For the period December 2002 through October 2003, 99.5% of the scheduled Hot Cuts were started within 15 minutes of the requested time on the order. In stark contrast to Mr. Van De Water's allegation, this is conclusive evidence of BellSouth's superb performance in reliable scheduling.

Mr. Van De Water states that BellSouth fails to notify "consistently and timely that customer loops had been transferred to AT&T." Once again, the facts illustrate that Mr. Van De Water's comments are misleading. Referring to my Direct Testimony, page 21, BellSouth achieved the performance standard for the Average Completion Notice Interval for 99% of the sub-metrics (which include hot cut orders) over the 11-month period from November 2002 through October 2003.

Lastly on page 9, Mr. Van De Water theorizes that BellSouth creates "customer service outages by erroneous disconnection of end users' lines and, when erroneous disconnections occur, there is undue delay in

reconnection." While BellSouth's data does not directly provide the number of customer outages caused specifically by erroneous disconnection of end user's lines, outages caused by erroneous disconnection of end user's lines, should this actually occur, would be reflected in several measurements. As an example, the Customer Trouble Report Rate captures all troubles and it includes service outages as well as troubles that do not put a customer out of service. As noted on page 26 of my Direct Testimony, for the period December 2002 through October 2003, UNE Loops experienced more than 98% trouble free service. (Troubles related to Hot Cuts would be in this category). In the event Mr. Van De Water is alleging that the 'erroneous disconnects' occur as the customer's line is being cut over from BellSouth retail to the CLEC, those troubles would be captured in Trouble Report Rate for BellSouth Retail, mostly in Residence or Business. For the period December 2002 through October 2003, the trouble free rate for these retail lines was 98%. For AT&T, BellSouth's performance has been even more exemplary. For the period June through October 2003, AT&T's lines were in excess of 99% trouble free. In summary, the facts do not support Mr. Van De Water's implication that there are significant "erroneous disconnections."

As to Mr. Van De Water's opinion that there is "undue delay in reconnection," once again, the facts portray a completely different picture. The time required to clear a trouble report is reflected in the Maintenance Average Duration metric for all services, and, where a trouble is encountered during a hot cut, the time required to clear the trouble is also

reported in the measurement Coordinated Customer Conversions – Average Recovery Time. It is important to note that these two measurements reflect the time to clear troubles, many of which are not service outages, but simply problems that do not put the end user completely out of service. For the first measurement, Maintenance Average Duration, BellSouth achieved the Authority's performance standard of parity 98% of the time during the 11-month period, December 2002 through October 2003. Moreover, the average time to clear the trouble was 7 hours for this 11-month period. As noted above, the trouble free rate for AT&T exceeded 99% for the period June through October 2003. This meant that less than 1% of AT&T's loops experienced a trouble report. The average time to clear these few troubles was slightly over 5.4 hours.

For the second measurement, Coordinated Customer Conversions – Average Recovery Time, the average time to clear a trouble experienced before the hot cut was completed, was 7.6 hours for the eleven-month period December 2002 through October 2003. However, this average time to clear a trouble affected less than 1% of the hot cuts for this time period.

Q. ON PAGES 14 OF HIS TESTIMONY, MR. VAN DE WATER CITES SEVERAL FIGURES THAT PURPORT TO ILLUSTRATE THE DIFFERENCES IN THE ORDER COMPLETION INTERVAL FOR UNE-P ORDERS VERSUS UNE-L ORDERS. WHAT IS THE RELEVANCE OF

THIS DIFFERENCE IN THIS PROCEEDING?

A. It has no relevance. Mr. Van De Water is simply noting that it takes less time on average to complete UNE-P orders, which are predominantly orders requiring a records change only, and no physical work, than the time involved on average to complete UNE-L orders where some form of physical work is always required. This revelation should come as no news to anyone. However, the important point is how BellSouth performs relative to the standards established by this Authority for these two different functions. As the data reflected in my Direct Testimony, BellSouth performs quite well.

Q. ARE MR. VAN DE WATER'S COMPARISONS AND CONCLUSIONS VALID?

A. No. First, his claimed impact on the CLEC is minimal at best. The interval that Mr. Van De Water refers to simply reflects how far in advance the CLEC must place the order. In this regard, Mr. Van De Water's comparison of UNE-P to UNE-L is about as relevant as comparing UNE-P to collocation. There simply is no relevance. All of these are different products that allow the CLEC to serve its customer in different ways. The customer still has service during this interval. So, the only impact is apparently on the CLEC's need to plan and sequence the orders. I should also point out that this same interval would apply to any customers that BellSouth wins back from the CLEC.

The most basic flaw in Mr. Van De Water's analysis is his attempt to equate two different products and processes. An order for UNE-P typically involves little more than changing the billing of an existing end-user from BellSouth retail (or from another CLEC) to the acquiring CLEC. In this instance, no physical work is required, an outside dispatch is not needed and the order is not subject to facility shortages. In contrast a UNE-L order will always require some form of physical work, in the central office, at the customer's premise, or both. A dispatch may be needed and the order interval can be affected by facility shortages. As a result of these two different processes, the applicable ordering intervals will usually differ.

Further, Mr. Van De Water includes in the chart on page 14 of his testimony the provisioning Interval for Switch-based Completions, the shortest interval reflected. This is apparently to show a large difference in the time for UNE-P and UNE-L completion intervals. However, the Switch-based Completions include all orders that are nothing more than a request for a feature change. Moreover, once the hot cut is complete, CLECs don't even need to send in these orders because they can make the changes themselves. Mr. Van De Water does not acknowledge this, or any other benefits that accrue to the CLEC from moving to UNE-L. Surely, these benefits offset the nebulous impact that he claims the provisioning interval for UNE-L causes.

Additionally, AT&T made this same argument before the FCC that the standard must be the same for UNE-P and UNE-L, contending that until ILECs offer an electronic loop provisioning (ELP) method of transferring large volumes of local customers, unbundled switching for voice grade loops is essential. The FCC, in paragraph 491 of its TRO, rejected this contention stating: "the evidence in the record suggests that an ELP process, to be effective, would require significant and costly upgrades to the existing local network at both the remote terminal and the central office…we, decline to require ELP at this time, although we may reexamine AT&T's proposal if hot cut processes are not, in fact, sufficient to handle necessary volumes." Clearly, the FCC did not support the idea that UNE-P and UNE-L installation intervals must be the same, notwithstanding Mr. Van De Water's suggestion to the contrary.

Q. YOU MENTIONED THAT THE ORDER COMPLETION INTERVALS FOR UNE-L AND UNE-P WILL "USUALLY DIFFER." ARE THERE INSTANCES WHEN THESE INTERVALS WOULD NOT DIFFER?

A. Yes. Depending on the marketing and business plans of the CLECs, the order intervals for UNE-P could be the same as UNE-L. If a CLEC acquires a customer and intends to serve that customer with a newly provisioned UNE-P (rather than migrating existing services), the processes, physical work, potential for a dispatch, possibility of a facility shortage and the resulting order interval would be similar to UNE-L. Similarly, if a CLEC's customer served by UNE-P wishes to add a second

line, the work process and the resulting interval would resemble a UNE-L. For instance, for the months of December 2002 through October 2003 the Order Completion Interval for UNE-P requiring a Dispatch was 4.7 days. In comparison, the Order Completion Interval for 2W Analog Loop Non-Design, with and without LNP was slightly better at 4.0 days. Mr. Van De Water's analysis is predicated on the ordering patterns of the CLECs today. And today, most UNE-P orders are simply migrations of existing service, which, again, requires a records change rather than physical work and a dispatch.

Q. ON PAGE 15, LINES 1-3, MR. VAN DE WATER CITES SERVICE OUTAGES DURING A HOT CUT, FOR A TWO-MONTH PERIOD RANGING FROM 5.08 HOURS TO 10.24 HOURS. PLEASE COMMENT.

A. While Mr. Van De Water's figures are accurate, he conveniently ignores the key fact that these outages occurred on less than 3% of the coordinated conversions, which meets the Authority's benchmark of 3% for Provisioning Troubles Received within 7 days of a completed service order. Although the 2-month average for service outages was 7 hrs, closer scrutiny of the data reveals another view. For September 2003 there were 5 service outages and for October 2003 there were 3 service outages for a total of 8 outages out of the 362 (2.2%) Coordinated Customer Conversions for this two-month period. Also, there was only one outage in both July and August 2003. During this period, there were 8 troubles reported and the average recovery time for these trouble reports

was in the range cited by Mr. Van De Water. Thus, 97% (160 / 165) for September and over 98% (194 / 197) for October of the hot cuts did not have a trouble report. Over the longer period, the 4 months of July 2003 through October 2003, the average service outage time was 5.6 hours. Certainly, Mr. Van De Water's generalizations overstate the customer impact.

Q. ON PAGE 15, MR. VAN DE WATER HAS A TABLE THAT HE CONTENDS ILLUSTRATES 'INFERIOR PERFORMANCE' FOR ANALOG LOOPS COMPARED TO UNE-P. SIMILARLY, MS. LICHTENBERG ALLEGES, ON PAGE 17 OF HER TESTIMONY, THAT A UNE-L MIGRATION "TAKES AT LEAST FIVE BUSINESS DAYS." DO THESE DATA RESULTS TRULY REPRESENT INFERIOR PERFORMANCE AS ALLEGED BY MR. VAN DE WATER AND MS. LICHTENBERG?

A. Certainly not. Once again, this is an invalid comparison. As I mentioned above, these data simply represent that the two services are ordered and provisioned differently. For the most part UNE-L data reflects data for new service while UNE-P data is largely migration of existing service. Consequently, these differences are more a reflection of the ordering patterns and business practices of the CLECs, rather than an indicator of inferior performance as Mr. Van De Water erroneously represents, and Ms. Lichtenberg implies. As an example, because most UNE-P orders are migrations of existing working service, there should be fewer orders

placed in jeopardy, less orders requiring a field visit, and a shorter order completion interval than an order for a new UNE Loop. As more existing in-service loops are used for UNE-L the same conditions that apply to such loops today when used as UNE-P would also apply tomorrow for loops used as UNE-L.

Furthermore, the Order Completion Interval for UNE Loops w/ LNP is a minimum of 3 days. The origin of this 3-day minimum is actually an industry agreement, which allows for the new service provider to accomplish the work and coordination necessary to perform a number port. To clarify, in July 2003, the Local Number Portability Administration Working Group (LNPAWG), which includes CLEC and ILEC representatives, approved a set of number porting procedures that place a lower limit or minimum on the Order Completion Interval for number ports in an NPA-NXX exchange. These procedures, in part, state: "Any subsequent port [meaning after the very first port] in that NPA NXX will have a due date no earlier than three (3) business days after FOC receipt." The LNPAWG is a sanctioned committee of the North American Numbering Council (NANC). AT&T is a member of the LNPAWG that approved these procedures.

With a 3-day industry standard minimum it is unlikely that 2W Analog Loop orders that do not require an outside dispatch will be completed as quickly as retail Residence and Business Orders that do not have that requirement. Perhaps a better comparison for parity determination

purposes is the interval on BellSouth retail winbacks where the process is essentially the same for both BellSouth and the CLECs. Of course, little winback activity existed when these standards were established, but that is probably no longer the case, so a more analogous standard can be set.

Q. ARE MR. VAN DE WATER'S COMPARISONS OF UNE-P AND UNE LOOP PERFORMANCE CONSISTENT WITH THIS AUTHORITY'S RULINGS IN THE PERFORMANCE MEASURMENENTS PROCEEDINGS?

A. No. Throughout his testimony, Mr. Van De Water is implying that UNE Loop performance is inferior or flawed, based on a theory that it should somehow be compared to UNE-P. This Authority (and every other Authority in BellSouth's region as well as the FCC in BellSouth's 271 applications) has determined that the performance for UNE-P and UNE Loop should be each compared to a retail analogue, where one is appropriate, or a benchmark if a retail analogue does not exist. They are not compared to each other. These performance standards were designed to take into account differences in the products and the processes, and, to a large degree, remove the influence of the CLEC's ordering patterns and business plans on BellSouth's performance results. As an example, for a typical ordering measurement, *e.g.*, the Firm Order Confirmation Timeliness, all orders placed and processed electronically should be evaluated against a standard for Fully Mechanized FOCs. The Authority determined that this standard should be 95% of FOCs returned

within 3 hours. However, the first line on Mr. Van De Water's table on Page 15 attempts to compare FOCs for UNE-P against FOCs for UNE-L. The Authority has determined that the proper comparison is against the performance standard, which for Fully Mechanized FOCs is 95% within 3 hours. For the period December 2002 through October 2003, 98% of the Fully Mechanized UNE-P orders and 98% of the Fully Mechanized Analog Loop Orders (with and without LNP) were processed within the 3-hour Authority standard.

Turning to flow through results on the Table on page 15, Mr. Van De Water has misinterpreted some data and misrepresented it as percent flow through. The rebuttal testimony of Mr. Pate addresses this issue in more detail.

Finally, Mr. Van De Water attempts to compare the percent of Orders requiring field dispatch and Non-Dispatch Order Completion Intervals for UNE-P and UNE-L orders. The percent Orders requiring field dispatch for UNE-P is artificially low as many of these orders are simply migrations of existing retail service to the CLECs. As has been stated several times before, for OCI these comparisons are not appropriate. Furthermore, they are in conflict with the Authority's findings that established a retail analogue for each product of these metrics.

Q. MR. VAN DE WATER, ON PAGE 18 LINES 5 – 7, OF HIS TESTIMONY, SUGGESTS THAT THERE ARE CURRENTLY FAILURE AND

RESTORATION PROBLEMS AT LOW VOLUMES THAT WILL "ONLY BE EXACERBATED" BASED ON POTENTIAL INCREASED DEMAND FOR UNE-L IF UNE-P IS NO LONGER AVAILABLE. PLEASE ADDRESS HIS COMMENT.

A. First, Mr. Van De Water begins, incorrectly, with the premise that there are currently "failure and service restoration problems that occur at low volumes." This premise is belied by the significant amount of data provided with my Direct Testimony in this case demonstrating that BellSouth's performance in the ordering, provisioning and maintenance & repair of UNE Loops is more than sufficient to allow CLECs to compete in the local market. Second, Mr. Van De Water uses an incorrect characterization of current performance to speculate that an increase in UNE-L orders, based on the elimination of local circuit switching as a UNE, exacerbates a current problem, which really is not a problem at all. Of course, he provides no facts to support his theory that performance will decline as volume increases, which is contrary to the historical pattern where BellSouth's performance for CLECs has improved as the level of competition has increased over the years.

Q. IN ADOPTING THE PERFORMANCE MEASUREMENTS STANDARDS FOR UNE-L THAT ARE CURRENTLY IN EFFECT, DID THE AUTHORITY LIMIT THE APPROPRIATENESS OF THE STANDARDS THAT IT ESTABLISHED TO SMALL VOLUMES?

A. No, the Authority made no such limitation. By adopting the Florida SQM, the Authority set standards for UNE-L measures in the performance measurements proceedings, for large and small CLECs, without regard to volumes. Simply said, the Authority did not establish any type of "sliding-scale" of performance standards based on volume.

The important point to be made here is that the Authority has already set standards for UNE-L measurements that it considers to be appropriate, and if BellSouth fails to meet these standards it is subject to penalty payments. BellSouth has demonstrated a consistent record of meeting these standards and has every incentive to continue this record in adjusting to the anticipated increases in UNE-L volumes.

Q. MR. VAN DE WATER, ON PAGE 34, LINE 16 – 17, OF HIS TESTIMONY, STATES, "BELLSOUTH PROVIDES NO PERFORMANCE DATA ON THE FREQUENCY AND DURATION OF FALL-OUT FROM ITS PROVISIONING SYSTEMS." HOW DO YOU RESPOND?

A. It is not clear what Mr. Van De Water means by 'fall-out from provisioning systems.' If he means order processing that requires manual handling, we actually do provide information on the frequency and duration in a number of Ordering measurements reports – namely Flow-Through Service Requests, Partially Mechanized Rejected Service Requests and Partially Mechanized Firm Order Confirmations (FOCs). If, on the other hand, he is referring to what happens after a FOC is issued and service order

processing begins, that is a combination of manual and automated processes and both can occur for UNE-P and UNE-L, as well as retail. The proportion of each is not relevant. What is relevant is whether BellSouth is providing CLECs with a level of service that allows the CLEC a meaningful opportunity to compete. Both this Authority and the FCC reached that conclusion and the performance data show that there is no basis for concluding otherwise today.

Q. ON PAGES 48 - 49 OF HIS DIRECT TESTIMONY, MR. VAN DE WATER INDICATES THAT TRUNKING IS ONE OF THE OPERATIONAL CONSTRAINTS THAT WILL RESULT FROM THE CONVERSION OF UNE-P TO UNE-L. IS THIS ACCURATE?

A. No. BellSouth provides CLECs with a very high level of performance in the area of local trunking. This performance level would not be significantly impacted by the conversion from UNE-P to UNE-L because in many cases the increase would simply mean that an existing trunk group would need to be augmented. As long as the CLEC provides a timely forecast to BellSouth of its trunking requirements, these increases can be accommodated within the same performance levels as provided currently.

In my Direct Testimony I included data with respect to BellSouth's performance for trunks in the Ordering, Provisioning and Maintenance & Repair categories. A detailed discussion of these performance results

was provided in Exhibit AJV-1 of my direct filing. These data demonstrate a very high level of performance for trunks. For example, for Tennessee, during the period of December 2002 through October 2003, BellSouth met the trunk blocking criteria (less than 0.5% difference for two consecutive hours) for all 11 of the 11 months (100%).

It is significant to note that BellSouth has years of experience in administering and augmenting trunk groups to respond to shifts in traffic such as would occur with the movement from UNE P to UNE L.

Q. HOW WOULD BELLSOUTH PROPOSE TO ADDRESS PROCESS CHANGES THAT WOULD AFFECT MEASUREMENTS?

A. BellSouth is reviewing several enhancements to the batch hot cut process. In my direct testimony, I proposed two new measurements, PO-3 and P-7E, and changes to measures O-7, O-8, O-9, O-11 and P-7. To the extent that these enhancements affect the measurements, BellSouth will, of course, modify its proposed measurement changes and additions accordingly.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF GARY TENNYSON

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

FEBRUARY 27, 2004

Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH").

A. My name is Gary Tennyson. My business address is 1884 Data Drive, Birmingham, AL 35244. My title is Principal Member – Technical Staff. I am employed by BellSouth Telecommunications, Inc.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. I have a Bachelor of Science degree in Electrical Engineering from Mississippi State University and a Masters of Science degree in Electrical Engineering from the University of Alabama at Birmingham.

I have been employed in the telecommunications industry for more than 27 years, all with BellSouth, and one of its predecessors, South Central Bell. From 1976 through 1984, I held line and staff positions in Outside Plant Engineering, where I was responsible for the planning and engineering of local loop facilities. From 1984 through 1987, I held a staff position in Marketing. Since 1987, I have

been involved with representing BellSouth in various industry standards forums dealing with loop access and associated technical interfaces. During this time, I served a four-year term as the chair of T1E1.1, a Working Group of T1E1, an Industry Standards forum. This Working Group dealt with Analog Interfaces. Currently in BellSouth, I provide expertise on local loop transport issues, particularly in the area of Digital Subscriber Line ("DSL").

Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE ANY STATE PUBLIC SERVICE COMMISSION, AND IF SO, BRIEFLY DESCRIBE THE SUBJECT OF YOUR TESTIMONY?

A. No.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY BEING FILED TODAY?

A. I respond to portions of the direct testimonies of Mr. James D. Webber on behalf of MCI, and Mr. Mark David Van de Water on behalf of AT&T with regard to Competitive Local Exchange Carriers' (CLECs') proposal to mechanize the hot cut process.

Electronic Loop Provisioning

Q. AT&T ADVOCATES THE ELECTRONIC LOOP PROVISIONING ("ELP") PROCESS (VAN DE WATER, AT PAGE 54 OF HIS TESTIMONY). WHAT IS

THIS PROCESS AND IS IT A VIABLE OPTION FOR THE TENNESSEE REGULATORY AUTHORITY ("AUTHORITY") TO CONSIDER?

A. In 2002, I participated in a meeting with AT&T Regulatory representatives at which the ELP concept was discussed in full. The ELP process is as follows: Where subscribers are served via copper loop facilities, i.e., no Digital Loop Carrier ("DLC") equipment is employed, ELP provides for the conversion of the analog voice grade signal to a digital format. When DLC is involved, the conversion is already done. After this conversion from analog to digital, the ELP concept provides for 'packetizing' the digital signal into Asynchronous Transfer Mode ("ATM") cells. (Note that despite AT&T's claims to the contrary, this packetization is not performed in any DLC systems used in BellSouth today). The ATM cells then transit an ATM switch. At the ATM switch, the ATM 'address' in the header of each cell is examined. Based on that destination address, the cell is then switched to the interface corresponding to the Incumbent Local Exchange Carrier ("ILEC") or CLEC serving that subscriber. Finally, a 'de-packetizing' device is positioned between the ATM switch and each LEC's switching system, to convert the digital signal in the ATM cells back into the synchronous Time-Division-Multiplexed ("TDM") format necessary for interconnection to the switching system.

Since all carriers would be connected to the ATM switch, the manual hot cut process could be replaced with a set of commands, hence the term 'Electronic Loop Provisioning.' Note that this process would require that every loop be connected to an ATM switch, and BellSouth does not have the quantity of ATM

switches in its network today to accommodate ELP.

Q. IS DEPLOYING ELP A REASONABLE OR JUSTIFIED PROPOSAL?

A. No. As I will explain throughout my testimony, AT&T's ELP process cannot be justified for either technical or economic reasons. First, as other BellSouth witnesses explain, the existing manual hot cut process is reliable. Second, ELP cannot be justified based on its huge cost. The hot cut costs incurred by the incumbent and passed onto the CLEC that would be avoided with ELP is only a one-time cost of $13 per loop transferred versus a recurring monthly charge of $6.66 on all lines. In other words, BellSouth would need to charge an additional $6.66 per loop per month forever to both its retail and wholesale customers. It would cost BellSouth approximately $8 billion in capital expenditures to implement ELP in its network – a cost that would ultimately need to be borne by consumers through higher rates or special surcharges. Third, ELP is not the best architecture to enable DSL and would impede DSL innovation.

Q. HOW MUCH WOULD IT COST TO DEPLOY ELP?

A. The ELP cost estimate for copper loops is $339 per line; for DLC loops it is $299 per line. Based on the makeup of copper and DLC in BellSouth's region (roughly 60% of all loops are all-copper and 40% are on DLC), the melded cost per line is $323. To realize the stated goal of transferring the end user from the incumbents switch to a CLEC's switch via a 'software command', **all loops** must be modified to an ELP architecture. The estimated cost to implement ELP is approximately

$8 billion region-wide. In addition, this strands about $1.6 billion in analog line equipment for BellSouth and provides no improvement in DSL availability.

Q. HOW LONG WOULD IT TAKE TO DEPLOY ELP IN BELLSOUTH'S REGION?

A. It would take at least several years, given the magnitude of such an undertaking and given that each and every loop in BellSouth's region will need to be modified.

Q. DOES THE EQUIPMENT NECESSARY FOR ELP ALREADY RESIDE IN BELLSOUTH'S NETWORK AS THE CLECS' ALLEGE?

A. The CLECs' allegations are overly simplistic and therefore incorrect. BellSouth does not have any of the DLC equipment that ELP requires. Moreover, even though BellSouth has some limited ATM switching capability, BellSouth does not have the quantity of switches, or the switch capacity, necessary to deploy ELP. Finally, BellSouth does not have the voice gateways — needed to connect ATM to the voice switches — in the necessary capacity, or quantity.

Automated MDF

Q. ON PAGES 21-22 OF HIS TESTIMONY, MR. WEBBER DISCUSSES THE "AUTOMATION" OF THE HOT CUT PROCESS AND REFERS TO "ELECTROMECHANICAL AND MICRO-RELAY TYPE MDFS." CAN YOU DESCRIBE THIS TECHNOLOGY?

A. Yes. What Mr. Webber wants is for BellSouth to replace the functionality of its Main Distributing Frames ("MDFs"). Some vendors are beginning to sell automated cross-connect devices that employ a physical, electrical connection. It is important to distinguish these from the 'digital cross-connect' devices that are prevalent in the network today, and from the ATM switch employed in the AT&T ELP proposal. These new automated cross-connect devices provide for an electrical connection. They do not, therefore, require that the input signal conform to some defined format, e.g., DS-1, DS-3, etc, as do 'digital cross-connect' devices. They also do not require that the signal be in an ATM format, as does the ELP proposal. Importantly, BellSouth is not aware of any manufacturer that offers a device of sufficient scale to replace large MDFs. Thus, today this solution is not technically available.

Q. IS THE DETERRENT TO IMPLEMENTING THIS TECHNOLOGY TO PRECLUDE THE GROWTH OF UNE-L AS MR. WEBBER ALLEGES ON PAGE 22 OF HIS TESTIMONY?

A. No, the deterrent is scalability and feasibility. Let me explain. Consider a hypothetical situation involving a small Central Office ("CO") with only a thousand lines. If we assume that practically all of the loops would connect directly to the switch ports, then such an automated cross-connect may be economically feasible. In such an instance, the cross-connect device could be built with a thousand loop-side connections, a thousand switch-side connections, and could be built to be capable of cross-connecting any loop to any switch port. In fact, there are devices on the market today that have some limited capability in this

regard, and BellSouth is looking at deploying such products in very small COs.

Problems arise when something other than a simple loop to switch port connection is required. For example, when it becomes necessary to connect a loop to something other than a switch, such as a Digital Subscriber Line Access Multiplexer ("DSLAM"), the 'switching matrix' becomes much more complex. In larger COs, the size and complexity of the 'switching matrix' makes such products financially impractical. BellSouth is not aware of any implementation offering more than sixteen thousand (16,000) terminations, combined loop-side and switch-side. Another constraint, of course, would be the requirement to accommodate a number of interfaces to the various CLECs offering service in a given central office. Given that each carrier (including both the incumbent and the CLECs) would need some capacity above and beyond that currently used, the capacity would be considerably less the eight thousand (8,000) lines as suggested above. In summary, the technology is simply not capable of operating at the scale needed to address the need.

GR-303

Q. PLEASE DISCUSS THE SPECIFIC ELECTRONIC UNBUNDLING METHODS FOR GR-303 COMPLIANT IDLC MR. WEBBER DISCUSSES ON PAGES 35-38 OF HIS TESTIMONY.

A. Mr. Webber talks about improving loop unbundling using GR-303-compliant equipment. This is impractical for several reasons.

First, only a small percentage of IDLC systems, in Tennessee and elsewhere in BellSouth, are Next Generation Digital Loop Carrier ("NGDLC") systems, capable of employing GR-303 Interface Groups. Second, wherever these systems do exist, there is a limit on the number of GR-303 Interface Groups that can be accommodated. BellSouth has deployed two (2) different types of NGDLC systems. In one type, the limit is one (1) Interface Group. For this type system, no CLEC could have its own dedicated Interface Group since only one (1) exists. In the other type, the limit is four (4) Interface Groups meaning that only three (3) CLECs could have their own dedicated Interface Group. Third, this option would require extensive Operation Support Systems ("OSS") development to manage each dedicated Interface Group.

To summarize, all of BellSouth's DLC (which comprises only about 40% of its network) is not NGDLC. Second, even where BellSouth has NGDLC, there are not sufficient facilities to serve all CLECs. Finally, even if BellSouth spent the money to replace its network with NGDLC, OSS would need to be developed.

IDLC

Q. DO THE UNBUNDLED LOOPS BELLSOUTH PROVIDES TO CLECS MEET APPROPRIATE TECHNICAL STANDARDS?

A. Yes. In an open industry forum, Technical Committee T1 has adopted certain minimum technical criteria for unbundled loops. This document is entitled T1 Technical Report # 60 "Unbundled Voicegrade Analog Loops." The loops

BellSouth uses for its own retail service as well as the unbundled analog loops supplied to requesting CLECs conform to that Technical Report. BellSouth is not aware of any unbundled loop facility that, by design, fails to meet the criteria contained in that document. Furthermore, loops like this, i.e., either loaded copper loops, or loops provided via Universal Digital Loop Carrier ("UDLC"), are very commonly used to provide BellSouth's retail service.

Q. ON PAGE 34 OF HIS TESTIMONY, MR. WEBBER STATES "WHERE END USERS ARE TAKEN OFF IDLCs AND UNBUNDLED LOOPS PROVISIONED VIA UDLC, SUCH LOOPS WILL NECESSARILY INCLUDE MULTIPLE A/D CONVERSIONS AND MODEMS OPERATING ON THOSE LOOPS WILL, THEREFORE, BE INCAPABLE OF SUPPORTING A V.90 DIAL-UP PROTOCOL. INSTEAD, MODEMS WILL DROP TO A V.34 PROTOCOL, WHICH IS LIMITED TO 33.6 KBPS." MR. WEBBER THEN CONTENDS THAT IT IS UNCLEAR WHETHER BELLSOUTH'S PROVISIONING OF THESE TYPE LOOPS IS CONSISTENT WITH PROVIDING SERVICE "EQUIVALENT TO DS0 CAPACITY" AS PER FCC RULE 51.319(a)(2)(iii). PLEASE COMMENT.

A. I disagree with Mr. Webber's conclusion. The term 'equivalent to DS0 capacity' is not tightly defined in industry fora. In fact, even using an IDLC loop, a V.90 modem can connect at about 50 kbps or so. If we construe the 'equivalent to DS0 capacity' to require exactly 64 kbps through a dial-up data connection, then no loop meets that requirement. One could also interpret the phrase 'equivalent to a DS0 capacity' to require that the ILEC not employ, through transcoding technology, less than 64 kbps in the DLC backhaul. In this sense, UDLC meets

the requirement. As referenced above, a better-defined set of requirements for unbundled loops can be found in T1 Technical Report #60.

Q. MR. WEBBER ALLEGES, ON PAGES 26-27 OF HIS TESTIMONY, THAT WHEN IDLC LOOPS ARE UNBUNDLED, "[I]N MANY CIRCUMSTANCES, THE FACILITY TO WHICH THE CUSTOMER IS REASSIGNED IS TECHNOLOGICALLY INFERIOR TO THE EXISTING FACILITY OR MAY SIMPLY BE A FACILITY THAT HAS BEEN POORLY MAINTAINED." IS HE CORRECT?

A. No. First, the allegation that a loop in BellSouth's network is "poorly maintained" is not correct. BellSouth maintains its network facilities to the applicable technical standards. It would make no sense for BellSouth to allow deployed plant to deteriorate in the ground especially considering that BellSouth uses those same facilities over which it provides service to its own retail customers.

Second, the "technologically inferior" condition of the new facility to which Mr. Webber refers is applicable only to the situation in which the end user is using a dial-up modem. It is not applicable to voice services. What Mr. Webber is really complaining about is degradation in a service for which MCI has not paid. Specifically, while true that, in some instances, the unbundled loop to which the subscriber is transferred cannot support dial-up data at the data rate that might have been possible when the subscriber was on IDLC, at present there is no technology solution to that situation. Recently I participated in cooperation with one CLEC (Deltacom) to determine whether a solution is available. I will discuss

the technical trial in more detail later in this testimony.

Q. MR. WEBBER CLAIMS, ON PAGE 31 OF HIS TESTIMONY, THAT CLECS ARE UNABLE TO BENEFIT FROM IDLC TECHNOLOGY. IS HE CORRECT?

A. No. IDLC is a very efficient serving arrangement, when practically all of the lines served by the DLC system terminate on the local switching system into which the IDLC is integrated. CLECs could benefit from the use of IDLC technology, if the number of subscribers served at a DLC remote terminal site warrants an investment in a DLC system terminating in their switch.

Q. MR. WEBBER COMPLAINS ABOUT MODEM SPEED REDUCTION IN UNIVERSAL DLC ("UDLC") SYSTEMS. PLEASE COMMENT.

A. It is true that multiple A/D conversions —– inherent to UDLC — make a dial-up data connection using the V.90 protocol impossible, and necessitates that the modems 'fall back' to a lower data rate. The key point here, however, is that CLECs are purchasing voice grade circuits from BellSouth and there is no degradation in the voice service.

Q. PLEASE BRIEFLY DESCRIBE THE GOALS OF THE IDLC TECHNICAL TRIAL THAT BELLSOUTH CONDUCTED WITH RESPECT TO REDUCED MODEM SPEEDS.

A. On January 13, 2003, I and others from BellSouth met with Deltacom in

Anniston, Alabama, to discuss the benefits and goals of BellSouth engaging in a technical trial of some technical alternatives that, if successful, might be useful in addressing Deltacom's concerns regarding analog to digital conversions that are inherent when loops are provided over certain technology. Several other conference calls between BellSouth's and Deltacom's technical experts ensued. In a spirit of cooperation, BellSouth agreed to shoulder the expense of this trial even though ordinarily a CLEC would detail the type loop it desired and, if that loop type is not currently offered, use the New Business Request process to have BellSouth analyze the feasibility of such a development. I was chosen to coordinate the trial and marshalled appropriate resources within BellSouth to conduct the technical trial and to document the findings of that trial.

Essentially, the trial was meant to determine if loops provided over IDLC could be provisioned without any additional analog to digital conversions (compared to the quantity of analog to digital conversions when the end user was a BellSouth retail customer) using functionality referred to as "side-door" or "hairpin" arrangements within the BellSouth switch and additional equipment referred to as Digital Cross-connect System ("DCS") to aggregate unbundled loops for a given CLEC. For the trial, Deltacom furnished a list of telephone numbers of 'friendly customers' who had BellSouth service. From this list, two (2) lines were selected. These customers were served via a Nortel DMS100 office in BellSouth's network, and DCS equipment was already installed in that building.

DMS100 switch peripheral (SMS) assignments were obtained for the loops in question. The availability of vacant DS1 terminations on the associated SMS

was verified. DS1 terminations in the DCS were obtained, and BellSouth built circuits from the DCS to the SMS. The DS1 facilities between Deltacom's collocation arrangement and the DCS were also built.

Q. WHAT WAS THE OUTCOME OF THE TECHNICAL TRIAL?

A. The trial was unsuccessful. Unfortunately, two (2) unforeseen issues arose. It turns out that the loops to be converted were working in Mode II, i.e., concentrated mode. Concentration, in this setting, is the sharing of transmission paths between the DLC Remote Terminal ("RT") and the switch. For example, two (2) end users might share a single path and this is referred to as 2:1 concentration. In the DMS100 switch, a Mode II channel must be in the four (4) right-most line card slots, i.e., channels 17-24, of the digital transmission facility in order to be 'hairpinned' in the switch.

BellSouth also learned during the trial that only one (1) customer may be assigned to the RT card (which normally accommodates two lines) serving the loop to be unbundled. This limitation arises due to the fact that the DMS100 'nails up' both channels on the line card. Because it's extremely unlikely that both end-users would be converting simultaneously to the same CLEC, this effectively means that the other channel must be vacant, resulting in stranded investment. To overcome these limitations, the end-users to be converted would have to be re-assigned to other DLC cards or other facilities. This would involve, among other things, a transfer at the crossbox.

When the unanticipated cost of the line rearrangements (necessary to 'hairpin' a mode II IDLC channel in a DMS100 office) became known, the process was viewed to be even less viable. No effort was made to transfer the end-users or continue the trial. Finally, when BellSouth better understood the effect of multiple links of robbed-bit signaling on V.90 modem performance, there was simply no point in continuing the work. BellSouth removed the temporary arrangements it had made and informed Deltacom, in a conference call of both parties' technical subject matter experts participating, that the trial was unsuccessful.

Q. WHAT DOCUMENTATION OF THE TECHNICAL TRIAL DID BELLSOUTH PROVIDE TO DELTACOM?

A. The best description of the trial outcome is documented in the "white paper" that I produced at the end of the trial. A copy of that "white paper" was furnished to Deltacom at the end of the trial and is attached to this testimony as Exhibit GT-1.

Q. HAS DELTACOM RESPONDED FORMALLY TO BELLSOUTH'S "WHITE PAPER" DISCUSSING THE OUTCOME OF THE TECHNICAL TRIAL?

A. No. I was on the conference call I mentioned earlier and I believe Deltacom's representative appreciated the candor with which BellSouth explained its findings. From BellSouth's viewpoint, I believe the technical trial demonstrates that the technical solutions attempted are not technically feasible. At the conclusion of the conference call, BellSouth invited Deltacom to suggest other technical solutions but so far, Deltacom has made no such suggestion. To

summarize, it is my belief that BellSouth and Deltacom worked together in good faith to solve a technical problem for which at present there is no technically feasible solution.

Q. ON PAGE 27 OF HIS TESTIMONY, MR. WEBBER HYPOTHESIZES ABOUT THE DEVELOPMENT OF "TWO NETWORKS." IS HIS HYPOTHETICAL A LIKELY OUTCOME?

A. One can only guess that the two networks to which Mr. Webber alludes are 1) Loops provided via IDLC, and 2) Loops provided via loaded copper and UDLC. As mentioned above, though, BellSouth uses the latter technologies extensively to provide its own retail offering. Given that it is in BellSouth's best interest to provide the best service possible, I do not agree that this hypothesis is a likely outcome.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

Overview

This paper documents the lessons learned in a trial with ITC/DeltaCom. The trial attempted to unbundle a loop delivered via Integrated Digital Loop Carrier (IDLC) without incurring an additional Analog to Digital conversion. The trial was not successful.

Analog to Digital Conversions

Analog to Digital (A/D) conversions occur at analog interfaces to digital transport and digital switching. The latest dial-up modem protocol (as documented in ITU Recommendations V.90 and V.92) requires that there be only one A/D conversion, between the server modem pool (usually designated as a Remote Access Server) and the end-user. In the case of a digital switch serving metallic loops, with a digital trunk to a RAS, there is one A/D conversion in the line interface card in the digital switch. The V.90 protocol can be supported.

In the case of a digital switch serving Universal Digital Loop Carrier (UDLC), there is another A/D conversion in the channel unit at the DLC Remote Terminal (RT). The V.90 protocol cannot be accommodated, and the modems 'fall back' to the previous generation protocol, documented in ITU Recommendation V.34.

When IDLC to an ILEC switch is employed, there is no A/D conversion at the switch. The V.90 protocol can be supported.

Conversion to a UNE Loop

All three loop-types described above, i.e., metallic, UDLC, and IDLC, can be unbundled. Conversion of a metallic loop is straightforward. The A/D conversion point moves to the CLEC. Similarly, when a UDLC loop is unbundled, there are no additional A/D conversions. There were two A/D conversions when the end-user was served by the ILEC and there are two conversions when the end-user is served by the CLEC.

It is when the end-user is served via IDLC that the problem gets interesting. In different places, we have documented the various alternatives that are available when making such a conversion. They are as follows:

- Transfer the loop to copper feeder, if available
- Transfer the loop to a UDLC channel, if available
- Route the T1 lines serving the IDLC through a Digital Cross-Connect System. Subsequently, digitally cross-connect the channel to either a UDLC COT or a DS1 interface to the CLEC
- Use the switch-based 'hairpin' capability to route the channel back out of the switch, for connection to either a UDLC COT or a Digital Cross-Connect System, for further grooming to a DS1 interface toward the CLEC
- Convert the IDLC system to UDLC

If the IDLC system is an NGDLC system, it is — at least theoretically — possible to use the time-slot interchanger to connect the channel to either a UDLC COT, or a Digital

Cross-Connect System, for further grooming to a DS1 interface toward the CLEC. We do not, however, have the OAM&P systems in place to utilize this capability.

Note that some of these alternatives add an A/D Conversion. Those alternatives that do not add an A/D conversion are as follows:

- Transfer the loop to copper feeder, if available
- Route the T1 lines serving the IDLC through a Digital Cross-Connect System. Subsequently, digitally cross-connect the channel to either a DS1 interface to the CLEC
- Use the switch-based 'hairpin' capability to route the channel back out of the switch, for connection to a Digital Cross-Connect System, for further grooming to a DS1 interface toward the CLEC

Multiple Robbed-Bit Signaling Links

The fact that the V.90 protocol cannot be supported across multiple A/D conversions is well known in the industry. It's less well known, though, that the presence of only 1 A/D conversion does not — in itself — guarantee that the V.90 protocol can be supported. Another limiting factor is multiple links of robbed-bit signaling.

DLC systems employ robbed-bit signaling, where the least-significant bit of the 8 bit encoded sample is overwritten with signaling information every 6th frame. The V.90 protocol is designed to recognize the robbed bit every 6th frame, so this isn't a problem with IDLC (into an ILEC switch).

When a DS0 with robbed-bit signaling traverses multiple DS1 links without intermediate conversions to analog, using a Digital Cross-Connect System (DCS) for instance, it's necessary that the signaling bits be written to multiple frames. This is necessary because the DS1's are not aligned on these six-frame groups (denoted superframes), or even frames, for that matter). The 6th frame in the first link, for instance, may be the 3rd frame in the next link. To overcome this problem, the product connecting the links (the DCS, to use the above example) must find the incoming superframe boundaries, detect the incoming signaling state, find the outgoing superframe boundaries, and repeat the signaling bits. It can be seen that 5/6 of the time, this will involve overwriting of a bit that was valid data.

As one might expect, multiple links of robbed-bit signaling impair the performance of V.90 modems. *This is a very important point that wasn't fully appreciated at the onset of the trial*. This problem is described in more detail in Annex A of ANSI T1.403.02a-2001**, Network and Customer Installation Interfaces — DS1 Robbed-bit Signaling State Definitions**. While the problem is well documented in the reference, the impact, i.e., that percentage of modems that can run V.90 across a specific number of robbed-bit links, isn't documented in the public domain. Discussions with vendors, though, indicate that most V.90 modems cannot employ the V.90 protocol when exposed to 3 such links. They 'fall back' to the V.34 protocol at 33.6 kbps or less.

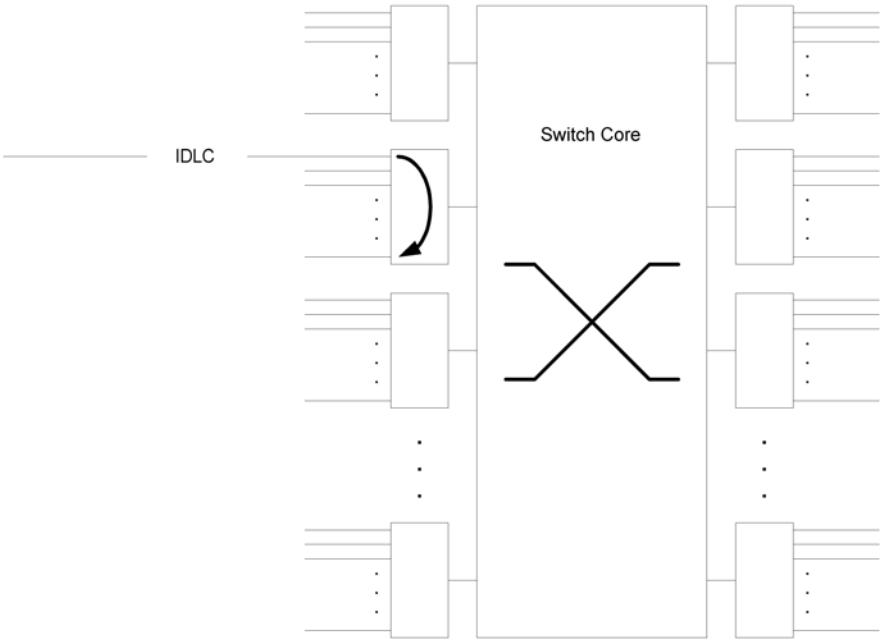
ITC/DeltaCom

ITC/DeltaCom initiated discussions with BellSouth regarding the unbundling of IDLC loops without incurring additional A/D conversions. After initial discussions, a decision was made to conduct a trial.

Although both parties recognized that the alternative of transferring a loop to copper feeder (if the copper is available) was a means of unbundling a loop without incurring an additional A/D conversion, such a conversion was not part of the trial. Early in the discussion, ITC/DeltaCom indicated that they has tried such conversions in the past, and had experienced various voicegrade transmission impairments. This avenue was not further pursued.

The second alternative, i.e., grooming of IDLC Channels in a Digital Cross-Connect System (DCS) was discussed. This alternative has a number of shortcomings. For one thing, a DCS not available in all CO's. For another, the DS1 circuits serving the DLC system must be routed through the DCS. This activity has a long lead time, and cannot be accommodated on a service-order basis. There is also a significant cost associated with the required DCS ports, and the associated maintenance activity. It should also be noted that any service outages during these rearrangements would affect all users served by the DLC system, not just those users converting to the CLEC. For these reasons, this alternative was not pursued.

The remaining alternative, i.e., using the switch-based 'hairpin' capability was the focus of the trial. We recognized at that time that, in a DMS100, the 'nail-up' could only be made within the switch peripheral, as illustrated in Figure 1, below:



DMS-100
Nail-Up only in Peripheral

Figure 1

We also recognized that lines served via GR-303 IDLC and via Nortel DMS-1 Urban could not be 'nailed-up.'

We thought that the 5ESS and the EWSD did not suffer from the first limitation. The documentation on those switches suggested that they offered the ability to 'nail-up' a connection across an office, i.e., from one peripheral to another. Subsequent testing in the BellSouth technology Assessment Center proved that not to be the case. Only connections within the same switch peripheral can be 'nailed-up.'

The issue of multiple links of robbed-bit signaling (arising from chaining together these DS1's), and its effect on V.90 performance, was not discussed.

We recognized other limitations. We knew, for instance, that there are a limited number of ports per peripheral. We also recognized that this arrangement would have a very low DS1 fill unless a DCS were added, as illustrated in Figure 2, below.

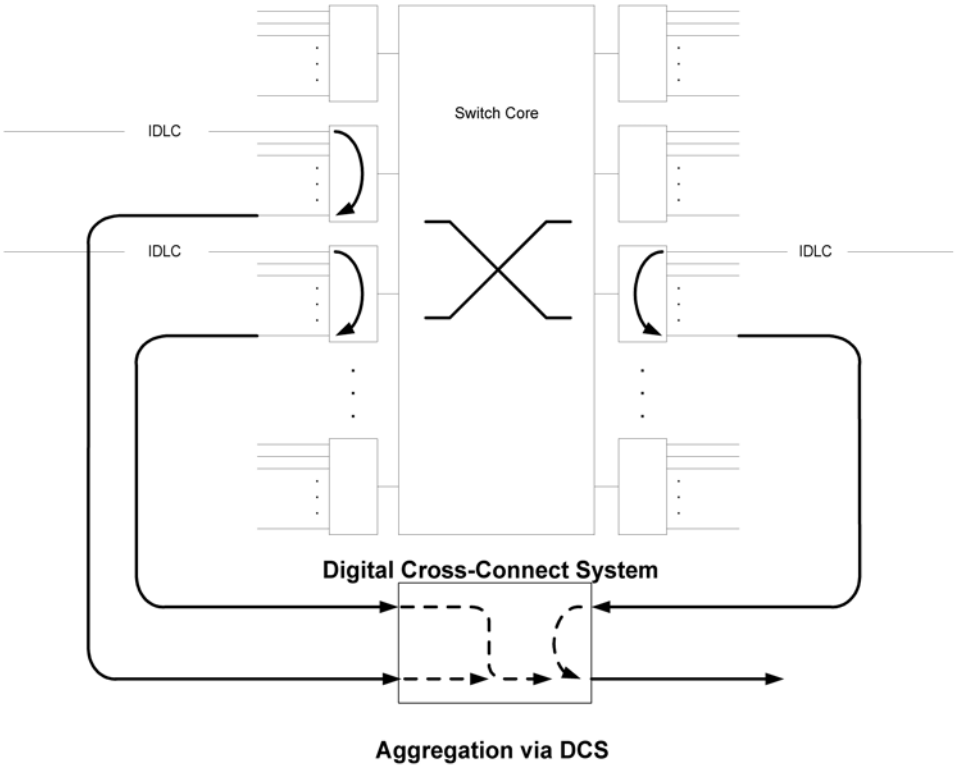


Figure 2

For the trial, ITC/DeltaCom furnished a list of telephone numbers of 'friendly customers' who has BST service. From this list, two lines were selected. These customers were served via a DMS100 office, and a DCS was in the building.

DMS100 switch peripheral (SMS) assignments were obtained for the loops in question. The availability of vacant DS1 terminations on the associated SMS was verified. DS1 terminations in the DCS were obtained, and circuits were built from the DCS to the SMS's. The DS1 between DeltaCom's collocation and the DCS was also built.

Lessons Learned

Unfortunately, two unforeseen issues arose. It turns out that the loops to be converted were working in Mode II, i.e., concentrated mode. In the DMS100 switch, a Mode II channel must be in the four right-most slots, i.e., channels 17-24, of a digroup in order to be 'hairpinned' [1].

We also found that only one customer may be assigned to the RT card (which normally accommodates two lines) serving the loop to be unbundled. This limitation arises due to the fact that the DMS100 'nails up' both channels on the card. Because it's extremely unlikely that both end-users would be converting simultaneously to the same CLEC, this effectively means that the other channel must be vacant.

To overcome these limitations, the end-users to be converted would have to be re-assigned. This would involve, among other things, a transfer at the crossbox.

Conclusion

We recognized, going into this trial, that it would be expensive. Anticipated costs included the following:

- Determining the availability of spare switch peripheral ports,
- Determining the availability of a Digital Cross-Connect System and spare ports
- The provisioning of DS1 links between the switch peripherals and the Digital Cross-Connect ports
- The use of the Digital Cross-Connect system

When the unanticipated cost of the line rearrangements (necessary to 'hairpin' a mode II IDLC channel in a DMS100 office) became known, the process was viewed to be even less viable. No effort was made to transfer the end-users or continue the trial.

When we better understood the effect of concatenated links of robbed-bit signaling on V.90 modem performance, there was simply no point in continuing the work.

Gary Tennyson
(205) 985-6087

[1] These slots were the only ones available for services requiring full-period assignment, i.e., coin and special services, in a SLC-96 system. A Series 5 system has no such slot restrictions, but it appears that the DMS100 retains the limitation even with the Series 5.

BELLSOUTH TELECOMMUNICATIONS, INC.

BEFORE THE

TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

REBUTTAL TESTIMONY OF

DR. CHRISTOPHER JON PLEATSIKAS

I. INTRODUCTION

Q. ARE YOU THE SAME CHRISTOPHER JON PLEATSIKAS WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony responds to the economic arguments regarding market definition made by Dr. Mark T. Bryant on behalf of MCI and Mr. Joseph Gillan on behalf of CompSouth.

II. RESPONSE TO DR. BRYANT

Q. PLEASE DESCRIBE DR. BRYANT'S MARKET DEFINITION RECOMMENDATION.

A. In his direct testimony, Dr. Bryant concludes that each customer location represents a unique market. (Bryant Direct 40-41) Dr. Bryant notes that for administrative practicability, the Tennessee Regulatory Authority (TRA) may aggregate these "mass market customer locations" to the wire center level. (Bryant Direct 42)

Q. IS EACH CUSTOMER LOCATION A UNIQUE MARKET?

A. No. In his direct testimony, Dr. Bryant bases his proposed market definition merely on the observation that a customer wants landline telephone service at his or her location, and the assertion that having telephone service available at another (even nearby) location is not a substitute. (Bryant Direct 41) This is neither an accurate characterization of the demand for telecommunications services nor does it comply with the FCC's requirement, and basic economics, that a market definition consider whether an efficient CLEC serving only one area could take advantage of the available scale and scope economies that might be available by serving a wider market. (TRO fn. 1536)

Dr. Bryant's observation that customers want telephone service in their own homes or businesses and that service to other locations is an inadequate substitute, is an

observation focused solely on demand-side substitutability, whereas markets should be defined with reference to both demand-side and supply-side substitutability. That is, you have to look at the market definition not solely from the viewpoint of the person (or entity) receiving the service, but from the viewpoint of the person (or entity) providing the service. Moreover, even ignoring supply-side substitutability, as a general economic proposition in terms of the demand for telecommunications services, advances in technology have undermined the validity and applicability of Dr. Bryant's views on demand-side substitutability, including for the purpose of defining geographic markets. For example, the provision and use of telecommunications services via wireless (i.e., mobile) technology demonstrates that, for some end users in at least some circumstances, the customers' premises is not the only geographic location at which customers demand telecommunications services.

In discussing the issue of market definition, the FCC recognizes the importance of supply-side considerations, that is, looking at the market definition from the viewpoint of the supplier of the service. The FCC specifically instructs state commissions on this issue:

> We make clear that state commissions cannot define a market as encompassing an entire state and that they should not define the market so narrowly that a competitor serving that market alone

would not be able to take advantage of available scale and scope economies from serving a wider market. (TRO fn. 1536)

Dr. Bryant's direct testimony on proposed market definition does not consider the FCC's requirement that the market definition incorporate relevant supply considerations, and as a result his definition fails to meet the FCC's expectations that "one would expect a broader market definition for switching than for loops or transport." (TRO fn. 1536)

Q. PLEASE COMMENT ON DR. BRYANT'S ARGUMENT THAT "A MARKET DEFINITION THAT IGNORED LOCATION SPECIFICITY WOULD FLY IN THE FACE OF THE ENTIRE FOUNDATION OF ANTITRUST AND REGULATORY ECONOMICS." (BRYANT DIRECT 43)

A. I agree that location specificity can be an important aspect of a product or service. However, location specificity in demand, by itself, is insufficient to imply that each individual location is a separate market. As I described, location specificity in demand for (landline) telecommunications services is related to a particular existing delivery technology as much as, or possibly more than, customer demand. In any event, location specificity is not unique to telecommunications services. There are

other products that provide location specific services, but, like telecommunications, one cannot infer from this alone that each location is a separate market.

To illustrate how Dr. Bryant ignores supply-side considerations, consider the market for house painting services. House painting is location specific in demand because having the service "delivered" to a neighbor's house is not an adequate substitute for having those services "delivered" to your own house (i.e., having your own house painted). Yet, each individual home clearly does not constitute a separate geographic market because most firms that provide house painting services would not organize themselves so as to serve only one particular home. Available scale and/or scope economies (e.g., that can be captured through ladders, scaffolding, and other capital supplies or advertising one's services in the Yellow Pages), among other factors affecting supply substitutability, imply that the geographic market for house painting is larger than a single-house location.

Q. DOES DR. BRYANT CONCLUDE THAT CUSTOMER LOCATIONS ARE MARKETS?

A. No, in his direct testimony Dr. Bryant confusingly suggests that although customer locations are apparently "the relevant geographic market for local telecommunications services" (Bryant Direct 43), there are several "factors that support a market definition at the wire-center level" (Bryant Direct 45) and so it is

"most practical to conduct impairment analysis at the wire-center level" (Bryant Direct 47). In short, Dr. Bryant provides no unambiguous indication whether he prefers customer locations over wire centers as a market definition. In my opinion, neither of these definitions meets the guidance in the TRO.

Q. YOU HAVE DEMONSTRATED THAT CUSTOMER LOCATIONS ARE NOT MARKETS. IS DR. BRYANT'S WIRE CENTER PROPOSAL A REASONABLE ALTERNATIVE?

A. No, his wire center proposal is not reasonable because it also does not sufficiently consider substitutability in supply. That is, it fails to consider whether efficient competitors using self-provisioned (or third-party) switching to provide service in certain wire centers could, within a sufficiently short period of time, render supracompetitive pricing by the incumbent in another, proximate wire center unprofitable (i.e., because a sufficient number of the incumbent's customers would switch to one of the competitors in response to such pricing). If these competitors could do so, then the relevant geographic market *must be larger than the individual wire center*. In fact, the scale and scope economies available to efficient entrants (TRO fn. 1536) are generally not consistent with the existence of geographic markets defined along wire center boundaries. These scale and scope economies, which exist in part because of similarities in certain costs and demand and other

economic characteristics shared by groupings of proximate wire centers, facilitate competition across broader geographic areas than individual wire centers.

Wire centers were organized years ago to permit the ILEC to efficiently serve all customer locations using the technology of the day. With (1) the continued growth of competition, and with each competitor (and the ILEC) serving fewer than the total number of customer lines in a wire center; (2) technological change that permits carriers economically to serve multiple wire centers using a single switch rather than by replicating the traditional network; and (3) the use by at least some CLECs of mass media advertising to attract customers, single wire centers may not adequately reflect substitutability in supply and therefore may not constitute distinct geographic markets.

Q. DO COLLOCATION COSTS BY THEMSELVES DEFINE A MARKET?

A. No. Collocation costs can influence where a CLEC may seek to offer service in a market, but they do not, by themselves, determine the geographic scope of the market. As I noted earlier, the geographic scope of a market is defined by considering *both* demand and supply substitutability.

A key issue for market definition in the context of this proceeding is whether an efficient competitor serving one part of an area reasonably could serve another part,

recognizing that in so doing it could incur additional costs such as additional collocation costs in the event that it is not already collocated. Dr. Bryant contends that CLECs make such decisions on a wire center-by-wire center basis because net operating income from a CLEC will vary across wire centers. (Bryant Direct 46) However, most CLECs that provided information on this point stated, contrary to Dr. Bryant's assertion, that they do not make entry decisions at the wire center level. (See FCCA Response to BellSouth Florida 1st Set of Interrogatories No. 1-18, which I understand is applicable to Tennessee as well. I note also that 7 of the 9 respondents to those Interrogatories currently operate in Tennessee.) Moreover, while it is true that certain costs vary across different wire centers, the "zoning" concept for UNE prices is intended to address, at least in part, this specific issue by identifying wire centers with similar cost characteristics.

Dr. Bryant has not demonstrated either that efficient CLECs make entry decisions in the manner he asserts or that demand and supply substitutability would generally result in geographic markets confined to wire center boundaries. To the contrary, the ability of CLECs to capture economies of scope and scale across a wider area because aggregations of wire centers share certain cost and other economic characteristics is inconsistent with Dr. Bryant's assertions. In deriving my market definition as the intersection of UNE Zones and Component Economic Areas (CEAs) I specifically considered factors relating to both homogeneity in certain costs and economic commonality, both of which affect supply substitutability.

Q. DID ANY CLECS SUPPORT A CLAIM TO CONSIDER ENTRY DECISIONS ON A WIRE CENTER-BY-WIRE CENTER BASIS?

A. No. In its response to BellSouth's first set of interrogatories in Florida, the FCCA notes that the members who responded usually did not claim to "enter a market at the wire-center level." (FCCA Response to BellSouth Florida 1st Set of Interrogatories No. 1-18) When given the opportunity to identify the factors that influence its market entry decisions, one of the CLECs that claimed to enter at a wire center level, MCI (which is a party in this proceeding) listed ILEC retail prices, ILEC access charges, and ILEC UNE-P/UNE pricing—none of which is determined solely at the level of the wire center. Indeed, ILEC retail prices, ILEC access charges, and ILEC UNE-P/UNE pricing generally extend across multiple wire centers.

Q. DR. BRYANT MAINTAINS THAT CLECS WILL NOT OFFER SERVICE IN A PARTICULAR WIRE CENTER IF THEY DO NOT BELIEVE THAT THE WIRE CENTER WILL "CONTRIBUTE TO THE BOTTOM LINE." (BRYANT DIRECT 49) IF TRUE, DOES THIS IMPLY THAT EACH WIRE CENTER REPRESENTS A DIFFERENT MARKET?

A. No, Dr. Bryant's perspective is too simplistic in that it ignores both the import of the concept of supply substitutability and the manner by which firms evaluate and exploit business opportunities. For example, if a firm were to analyze the profitability of entry into a single wire center in isolation from the opportunities available in contiguous and/or proximate wire centers, it might find that entry was likely to be unprofitable given all of the costs associated with entry. By contrast, if at least some such costs (such as switching, marketing and administrative costs) could be amortized over multiple wire centers, entry might be profitable over a broader area. Of course, firms generally use the latter method for evaluating opportunities – by assessing financial and economic viability over reasonably-sized geographic (and product) spaces, not by artificially confining themselves to providing services within arbitrarily defined narrow areas (such as individual wire center boundaries). Thus, an efficient CLEC will select the geographic area for entry – which in general will include more than one wire center – that maximizes its profits. Insofar as there are economies of scale and scope that are captured by serving multiple wire centers, an efficient CLEC will generally ultimately enter and serve an area that spans that broader geography.

Wire centers can be grouped together, in part, because either (1) an efficient CLEC that decides to enter one wire center due to its perceived profitability would generally be willing (and able) economically to enter another nearby wire center with similar cost characteristics and market prospects and/or (2) an efficient CLEC

may initially decide to enter multiple wire centers (either sequentially or simultaneously) if it believes that serving the combination of wire centers is likely to be profitable even if serving any of the wire centers individually (in isolation) would not be profitable. Because a CLEC can use some of its assets (e.g., the switch) to serve customers in a broader area, economies of scale and scope associated with those assets are relevant to determining the market definition.

Indeed, this is precisely the relevance of my proposal for defining a market as the intersection of the UNE Zones in BellSouth's territory with the relevant CEAs. The UNE Zone/CEA intersection identifies those areas that are economically related and where costs are relatively homogeneous (and thus where one might expect a reasonable likelihood of substitutability in supply). These areas are reasonably likely to correspond to the market area considered by an efficient CLEC in deciding whether to enter.

Q. IS THE ACTUAL COVERAGE OF FACILITIES-BASED CLECS AN INDICATOR OF THE GEOGRAPHIC MARKET AREA?

A. Not necessarily, in part due to the impact that widespread availability of UNE-P has on facilities deployment. The extent of coverage offered by a service provider can be one indicator of the geographic scope of the market. However, as is noted by FCC Chairman Michael Powell in his Separate Statement to the TRO, the

situation is different in telecommunications because there may be an incentive in at least some circumstances for CLECs to use UNE-P rather than self-provided or third-party switching even in instances where there is no impairment. Mr. Powell contends that the availability of UNE-P provides incentives for CLECs to use that method of service even when they economically could serve customers using UNE-L. As Dr. Aron describes, this can occur because UNE-P provides the promise of higher profits than UNE-L.

As a result, if we observe a CLEC that offers mass-market service from its own switch to customers in an economically meaningful area (such as a UNE Zone/CEA) that is served by multiple wire centers, we can conclude that the relevant geographic market is likely to be broader than a single wire center. However, we cannot necessarily conclude that we have observed the full scope of the UNE-L marketplace just from the current deployment of UNE-L (e.g., because the real-world CLEC's business plan may be influenced by the availability of UNE-P). For this reason, it is more appropriate to consider the UNE Zone/CEA method that I propose. This approach identifies areas that are economically related and where costs are relatively homogeneous. If an efficient CLEC economically can offer service in one part of the area without access to the unbundled element, it may well be able to offer service in any other part of that area, even if, in the real world, this capability is being obscured by CLECs' choice of UNE-P rather than self-provisioning of switching. Furthermore, the evidence provided by BellSouth

witness Pam Tipton demonstrates that CLEC switches generally provide service across multiple wire centers.

Q. DR. BRYANT CLAIMS THAT WIRE CENTERS ARE NATURAL GEOGRAPHIC BOUNDARIES BECAUSE COSTS VARY WIDELY ACROSS WIRE CENTERS. (BRYANT DIRECT 29-30) PLEASE COMMENT.

A. Even though some costs may vary across wire centers, this does not necessarily imply that each wire center is a distinct relevant market. As I noted earlier, in general an efficient CLEC would not seek to enter only one particular wire center without also evaluating whether it would be more profitable (due to economies of scale or scope) to enter a broader group of wire centers that have comparable (but not necessarily exactly the same) costs and are economically related. Indeed, as I discussed, there may be cases where it would not be economic for an efficient CLEC to enter only one wire center *without* also (ultimately) entering others, due to the existence of certain joint and/or common costs that are relevant to providing service to multiple individual wire centers.

UNE Zones are intended to distinguish between "significant cost variations." (FCC First Report and Order at ¶¶ 760, 765) The FCC also noted that the state commissions should consider separating zones with high and low UNE loop rates

for purposes of assessing impairment. (TRO fn. 1538) Moreover, I also understand that this Authority has grouped wire centers that have similar cost characteristics into different UNE Zones. It follows that Dr. Bryant's contention that "it is not possible to draw conclusions about one wire center from an analysis of another wire center" (Bryant Direct 30) is unsupported. In fact, the opposite is the case: it is reasonable for the purpose of defining a geographic market to draw inferences about the ability of an efficient CLEC to serve in one area of a UNE Zone/CEA from observations of CLEC service in other areas of that UNE Zone/CEA.

Q. PLEASE COMMENT ON DR. BRYANT'S ASSERTION THAT IT IS LESS COSTLY FOR A CLEC TO SERVE NEW CUSTOMERS IN A WIRE CENTER WHERE THE CLEC ALREADY IS COLLOCATED THAN IT IS TO SERVE NEW CUSTOMERS IN A WIRE CENTER WHERE THE CLEC HAS NOT YET ESTABLISHED COLLOCATION. (BRYANT DIRECT 30)

A. Even if this assertion is true, it is not necessarily directly relevant to market definition. To understand this, consider the following observation. A publishing firm may find that it is less costly (and more profitable) to sell cookbooks to customers that already subscribe to the firm's homeowner's magazine than to new customers (i.e., people to whom the firm currently sell no products). This may occur for several reasons – e.g., the firm understands the tastes and needs of current

subscribers, the current subscribers have developed a level of trust in and/or a preference for the firm's products, and/or it is relatively less expensive to market the cookbook to current subscribers (e.g., through an advertising insert that could be included in the magazine at relatively low incremental cost). As a result, the firm's costs of sales may be lower (and the firm's success rate as measured by sales per contact higher) for its existing magazine subscribers than to new customers. Nevertheless, this does not imply that new customers are in a separate relevant market for cookbooks. A cost differential of the sort described by Dr. Bryant does not, by itself, determine the extent of the market.

Indeed, a CLEC that has established collocation in one wire center could establish collocation in a nearby wire center that has similar costs (e.g., the same loop rates) and that shares a close economic relationship with the collocated wire center. Moreover, by doing so the CLEC could increase its overall profitability by taking advantage of scale and scope economies available from serving this wider area. After all, collocation costs are not the only costs that are relevant to determining market area.

As I noted, the competitive entry decision occurs at the *market* level (which generally would span multiple wire centers) even if a particular CLEC may elect not to enter a *particular* wire center (immediately or ever). The UNE Zone concept helps ensure that network-related costs (e.g., the price of a loop), which are related

to supply-side substitutability, are comparable within any geographic market. Using these zones in conjunction with CEAs to define geographic markets helps ensure that these areas are relatively compact and share certain economic characteristics.

III. RESPONSE TO MR. GILLAN

Q. PLEASE DESCRIBE MR. GILLAN'S DEFINITION OF GEOGRAPHIC MARKET.

A. Mr. Gillan claims that he does not propose a geographic market definition. (Gillan Direct 22) However, Mr. Gillan also contends that the TRA should define its geographic area in a "manner that permits [the TRA] to recognize the unique competitive signature of UNE-P, so that it may test other entry strategies to see whether they could produce the same level of competitive choice." (Gillan Direct 29-30) In other words, Mr. Gillan contends that the geographic market, however defined, should permit a competitive entry strategy that would replicate the same geographic pattern of market penetration that has occurred for CLECs with the use of UNE-P.

Q. PLEASE COMMENT ON MR. GILLAN'S "COMPETITIVE SIGNATURE" APPROACH TO MARKET DEFINITION. (GILLAN DIRECT 29)

A. As discussed above, it is not proper as an economic matter to define markets merely by evaluating the competitive entry strategies of individual firms. I will also note that, in response to BellSouth Florida 1st Set of Interrogatories No. 1-09, Mr. Gillan identified no treatises, articles or literature addressing the "competitive signature" approach to market definition and specifically stated that his opinion relied upon no such treatises, articles or literature.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF W. KEITH MILNER

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

FEBRUARY 27, 2004

Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH").

A. My name is W. Keith Milner. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375. I am Assistant Vice President - Interconnection Operations for BellSouth.

Q. ARE YOU THE SAME W. KEITH MILNER THAT FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY FILED TODAY?

A. My testimony provides rebuttal to the direct testimony of Mr. Jay M. Bradbury and Mr. Steven E. Turner on behalf of AT&T Communications of the Southern States, LLC.

Rebuttal to Mr. Bradbury

Q. ON PAGE 9 OF HIS TESTIMONY, MR. BRADBURY CONTENDS "THE LEGACY ILEC NETWORK ARCHITECTURE PROVIDES AN INEFFICIENT AND UNECONOMIC MEANS FOR A CLEC THAT TRIES TO CONNECT THOSE SAME LOOPS TO ITS SWITCH THAT IS ALWAYS REMOTELY LOCATED FROM THE ILEC CENTRAL OFFICE WHERE THESE LOOPS TERMINATE." [Emphasis added] HOW DO YOU RESPOND?

A. Despite Mr. Bradbury's characterization to the contrary, there is no requirement that Competitive Local Exchange Carriers ("CLECs") install their local switch at some location other than the Incumbent Local Exchange Carrier's ("ILEC's") central office building. CLECs have the option to place switches in their collocation arrangements in BellSouth's central offices – an option Mr. Bradbury has overlooked.

Q. ON PAGES 9-10 OF HIS TESTIMONY, MR. BRADBURY QUOTES THE FEDERAL COMMUNICATIONS COMMISSION ("FCC") AS SAYING "THE NEED TO BACKHAUL THE CIRCUIT DERIVES FROM THE USE OF A SWITCH LOCATED IN A LOCATION RELATIVELY FAR FROM THE END USER'S PREMISES, WHICH EFFECTIVELY REQUIRES COMPETITORS TO DEPLOY MUCH LONGER LOOPS THAN THE INCUMBENT." PLEASE RESPOND.

A. Mr. Bradbury correctly quotes the FCC. However, I disagree with the assertion that a CLEC's switch will be "relatively far" from the end user's premises. The

CLEC could, for example, house its switch in a building directly across the street from the ILEC's central office, assuming it elected not to put the switch in its collocation arrangement in that ILEC central office. In such a case, the loop would not be "much longer." More importantly, however, the Tennessee Regulatory Authority ("Authority") should recall that during recent proceedings regarding the CLECs' eligibility for reciprocal compensation for tandem switching, CLECs uniformly argued that: (1) their switches covered very large stretches of geography; and (2) the CLEC's architecture of choice featuring fewer switches and shorter loops as compared to incumbents' networks yielded significant benefits. In my direct testimony in this proceeding, I cited the testimony of Mr. Gregory Follensbee, on behalf of AT&T, and Mr. Don Price, on behalf of Worldcom, in which they explained the long "reach" of their respective switches. I find it somewhat ironic that the network characteristic that these CLECs touted as advantageous in order to obtain greater compensation from BellSouth now suddenly constitutes grounds for CLEC claims of "impairment."

Q. ON PAGE 10 OF HIS TESTIMONY, MR. BRADBURY STATES "THE CLEC BACKHAUL COSTS INCLUDE THE NON-RECURRING COSTS NECESSARY TO ESTABLISH A COLLOCATION ARRANGEMENT <u>IN EVERY ILEC WIRE CENTER</u> IN WHICH THE CLEC WISHES TO OFFER MASS MARKET SERVICES…" [Emphasis added] HOW DO YOU RESPOND?

A. Apparently, AT&T has chosen to assume that collocation in each wire center is required. However, as I noted in my direct testimony in this proceeding, BellSouth's Analysis of Competitive Entry ("BACE") model accommodates the

assumption that the CLEC may collocate in every ILEC central office in order to serve mass market customers. BellSouth's BACE model also allows the CLEC to collocate in some, but not all, ILEC central offices and use the so-called Enhanced Extended Link ("EEL") to serve those mass market customers whose loops terminate in ILEC central offices in which the CLEC is not collocated.

Q. ON PAGE 10 OF HIS TESTIMONY, MR. BRADBURY INSISTS THAT THE CLEC "MUST PAY EXORBITANT CHARGES TO THE ILEC FOR TRANSFERRING LOOPS FROM THE ILEC SWITCH TO A CLEC COLLOCATION FACILITY, OR FROM ONE CLEC TO ANOTHER." TO WHAT CHARGES DOES MR. BRADBURY REFER?

A. Apparently, Mr. Bradbury refers to the rates set by this Authority for the ordering and provisioning of unbundled loops. I disagree with Mr. Bradbury that the charges are "exorbitant," and he does not explain the basis for his claim. To my knowledge, AT&T has not challenged the "hot cut" rates established by the Authority to disconnect a loop from BellSouth's switch and then re-connect that same loop to the CLEC's facilities. One would expect AT&T to do so if it truly believed that such rates were "exorbitant," as Mr. Bradbury now claims.

Q. ON PAGE 10 OF HIS TESTIMONY, MR. BRADBURY TAKES ISSUE WITH THE TRANSFER PROCESS, CONTENDING THAT THE PROCESS IS INFERIOR IN COMPARISION TO UNE-P CHANGES OR THE PRIMARY INTEREXCHANGE CARRIER ("PIC") CHANGE PROCESS. ARE THESE COMPARISONS VALID?

A. No. The two (2) processes which Mr. Bradbury prefers (that is, use of UNE-P or the use of PIC change capabilities) are billing changes that are effectuated without the need to make physical changes to the ILEC's network. The hot cut process, on the other hand, requires physical work within the ILEC's network to remove the loop from the ILEC's switch and then to re-connect that loop to the CLEC's facilities including the CLEC's switch. There are profound dissimilarities between the processes Mr. Bradbury apparently wishes could be used for "hot cuts" and the processes that are actually used. Most importantly, he offers no replacement for or improvements to the "hot cut" process that AT&T and BellSouth jointly developed and which is in use daily across BellSouth's nine-state region.

Q. ON PAGE 17 OF HIS TESTIMONY, MR. BRADBURY QUOTES THE FCC AS SAYING "NO PARTY SERIOUSLY ASSERTS THAT COMPETITIVE LECs ARE SELF-DEPLOYING COPPER LOOPS TO PROVIDE TELECOMMUNICATIONS SERVICES TO THE MASS MARKET." PLEASE RESPOND.

A. While Mr. Bradbury accurately quotes the FCC, in the referenced passage, the FCC merely pointed out that CLECs were not deploying copper cables over which services are or will be provided. BellSouth concurs that CLECs generally do not place copper loop facilities. Nonetheless, CLECs are deploying analogous network facilities over which loops are transported, namely fiber optic-based transmission systems.

Q. ON PAGE 24 OF HIS TESTIMONY, MR. BRADBURY ASSERTS CLECs MUST

"INSTALL AND MAINTAIN THE EQUIPMENT NECESSARY TO DIGITIZE AND, USING CONCENTRATION AND MULTIPLEXING TECHNIQUES, AGGREGATE THE TRAFFIC ON THOSE LOOPS TO PERMIT CONNECTIONS TO THE CLEC's SWITCH AT ACCEPTABLE QUALITY LEVELS…" DO YOU AGREE?

A. No. CLECs need not perform this function for themselves, as Mr. Bradbury apparently believes. To the contrary, BellSouth's Unbundled Loop Concentration ("ULC") offer aggregates and digitizes the loops in a given BellSouth central office for delivery to the CLEC's collocation arrangement. Please see BellSouth's Interconnection website (http://www.interconnection.bellsouth.com/) for details of BellSouth's offer.

Q. ON PAGE 29 OF HIS TESTIMONY, MR. BRADBURY DISCUSSES A CLEC's USE OF DIGITAL LOOP CARRIER ("DLC") EQUIPMENT WITHIN THE CLEC's COLLOCATION ARRANGEMENT AND STATES "WHILE THIS DLC EQUIPMENT IS ABSOLUTELY MANDATORY FOR THE CLEC, IT IS NOT REQUIRED FOR THE ILEC WHEN SERVING THE SAME CUSTOMERS." PLEASE RESPOND.

A. While I agree that CLECs will use DLC equipment (either self-provided or via BellSouth's ULC offer I discussed earlier), DLC equipment is useful not for differences in transmission quality alluded to by Mr. Bradbury, but rather by the economics achieved as a result of concentrating individual loops for conveyance to the CLEC's switch which, under Mr. Bradbury's assumption, is housed somewhere other than within BellSouth's central office.

Q. ON PAGE 31 OF HIS TESTIMONY, MR. BRADBURY STATES "DLC EQUIPMENT IS NOT DESIGNED TO, AND THEREFORE CANNOT, SCALE PRECISELY WITH THE LEVEL OF DEMAND (OR NUMBER OF LINES) SERVED IN A WIRE CENTER." PLEASE ELABORATE ON THIS POINT.

A. Mr. Bradbury is correct to a certain point. What he fails to point out, however, is that few, if any, electronic devices used in a modern telecommunications network are smoothly scalable. Instead, to improve the cost efficiency of their products, manufacturers offer devices with stated levels of capacity. Once the devices are installed, the service provider (whether the CLEC or the ILEC) need not augment network capacity simply to provide service to one more customer. Indeed, most products (from a loaf of bread to airplane seats) are offered in capacity units, which the producer believes to be proper increments. Contrary to Mr. Bradbury's assertion that DLC investment is very "lumpy", I would point out that Mr. Bradbury has chosen to support his example with DLC equipment in the very largest increment commercially available (that is, the Alcatel LiteSpan 2000). There are numerous providers of DLC equipment with "start up" levels far smaller than that of the LiteSpan 2000. In fact, the AT&T model allows a choice from three (3) sizes of DLC, the LiteSpan being the largest, but CLECs may also place smaller DLC to scale to offices with smaller demand. See Turner Exhibit SET-2, Section II.B.1.a, page 12 (continuing on page 13).

Q. ON PAGES 32-33 OF HIS TESTIMONY, MR. BRADBURY DISCUSSES DIGITAL CROSS CONNECTION ("DSX") EQUIPMENT AND ATTRIBUTES IT WITH THE SAME LUMPINESS AS FOR DLC EQUIPMENT. WHAT IS YOUR

REACTION?

A. Here again, although DSX equipment is available in various capacity increments, Mr. Bradbury chooses to support his example using a piece of equipment (that is, the DSX-3) that provides the greatest amount of capacity rather than choosing some smaller device such as the DSX-1. If the CLEC has a smaller amount of expected demand, it could use the smaller device, notwithstanding Mr. Bradbury's suggestion to the contrary.

Q. BEGINNING AT THE BOTTOM OF PAGE 35 OF HIS TESTIMONY, MR. BRADBURY DESCRIBES THE WORK STEPS IN THE TRANSFER OF A WORKING LOOP FROM THE ILEC's SWITCH TO THE CLEC's SWITCH. IS HIS DESCRIPTION ACCURATE?

A. While Mr. Bradbury has correctly noted the work steps involved, it is ironic that earlier in his testimony (see page 10 of Mr. Bradbury's testimony) he decries this process as insufficient compared to processes that do not involve these physical work steps (the UNE-P transfer or a PIC change). Further, a "hot cut" process with accompanying physical work steps is likewise required whenever BellSouth "win backs" a customer previously served by a CLEC. Thus, any acquisition costs related to "hot cuts" are appropriately considered a cost of doing business for both ILECs and CLECs.

Q. ON PAGE 40 OF HIS TESTIMONY, MR. BRADBURY DISCUSSES LOOPS SERVED BY INTEGRATED DIGITAL LOOP CARRIER ("IDLC") EQUIPMENT

AND STATES “FOR EXAMPLE, IF THE ILEC’s DATABASE DOES NOT REVEAL THE PRESENCE OF IDLC BEFORE A CONVERSION DATE IS COMMITTED TO THE CUSTOMER, THE CLEC MUST NEGOTIATE A NEW DATE WITH THAT CUSTOMER, WHICH OF COURSE MAKES A NEGATIVE IMPRESSION.” PLEASE RESPOND.

A. BellSouth’s database (that is, Loop Facilities Administration and Control System or “LFACS”) includes indicators as to whether a given loop is provided via IDLC equipment. Through the loop makeup process, the CLEC can readily determine the presence of IDLC in a given instance and negotiate due dates with the CLEC’s customer accordingly. See the testimony of BellSouth witness Ronald Pate for a fuller discussion of this topic.

Q. ON PAGE 41 OF HIS TESTIMONY, MR. BRADBURY DISCUSSES IDLC ARRANGEMENTS AND DIGITAL SUBSCRIBER LINE (“DSL”) SERVICE. HE STATES “ADDITIONALLY, EXCEPT WHEN THE IDLC SERVED CUSTOMER CAN BE PLACED ON A COPPER LOOP LESS THAN 18,000 FEET IN LENGTH, CLECs ARE DENIED THE CAPABILITY OF PROVIDING DSL SERVICES TO THEIR CUSTOMERS.” IS THAT A CORRECT STATEMENT?

A. No. As Mr. Bradbury himself points out, even BellSouth must make alternative arrangements to provide DSL service to those of its customers served by DLC. In such a case, BellSouth must place its Digital Subscriber Line Access Multiplexer (“DSLAM”) in the remote terminal rather than in the central office. A CLEC that sought to provide DSL service to its customers could likewise

collocate its DSLAM at the remote terminal.

Q. ON PAGE 41 OF HIS TESTIMONY, MR. BRADBURY STATES "…BECAUSE THE CLEC DOES NOT HAVE THE ECONOMIES OF SCALE TO DIRECT CONNECT ITS SWITCH WITH EFFICIENT INTER-OFFICE TRUNK GROUPS TO EACH OF THE ILEC's LOCAL SWITCHES, THE CLEC WILL BE MORE RELIANT ON THE ILEC's TANDEM NETWORK FOR THE EXCHANGE OF TRAFFIC." WHAT IS YOUR RESPONSE?

A. Whether or not it is economical to have direct trunks between a particular pair of local switches in a local calling area is a function of the amount of traffic to be handled and the distance between those two switches. Although Mr. Bradbury's testimony would lead one to believe that CLECs must interconnect at a tandem for all their local traffic, that simply is not true. BellSouth allows (and some CLECs have elected) the interconnection directly between the BellSouth end office switch and the CLEC's switch rather than at the tandem. Those same factors affect BellSouth's decision whether to have direct trunking between certain of its end office switches, and it is not uncommon for the traffic between two BellSouth end offices in a given local calling area to be handled solely via tandem switching connecting the two end offices. Thus, BellSouth faces exactly the same challenges regarding cost efficiency and customer services, as does the CLEC in such cases.

Rebuttal to Mr. Turner

Q. ON PAGES 4-5 OF HIS TESTIMONY, MR. TURNER STATES "…IN THE

ABSENCE OF UNBUNDLED LOCAL SWITCHING, CLECs FACE PRACTICALLY INSURMOUNTABLE COST DISADVANTAGES RELATIVE TO THE INCUMBENT LOCAL EXCHANGE CARRIERS ("ILECs") IF UNBUNDLED NETWORK ELEMENT LOOPS ("UNE-Ls") USED IN CONJUNCTION WITH THEIR OWN (OR A THIRD PARTY PROVIDER'S) SWITCHING IS THE SOLE OPTION FOR PROVIDING LOCAL SERVICES TO MASS MARKET CUSTOMERS." DO YOU AGREE WITH MR. TURNER'S CONCLUSION IN THIS REGARD?

A. No. The cost analysis that accompanies Mr. Turner's testimony is fatally flawed in several respects. Once corrections are made to the assumptions underpinning Mr. Turner's analysis, it is clear that any cost "disadvantage", to use Mr. Turner's phrasing, is much smaller than he predicts and thus does not impair a CLEC's ability to compete.

Q. IN WHAT WAYS IS MR. TURNER'S ANALYSIS FLAWED?

A. Mr. Turner's analysis hinges on determining costs that a CLEC would incur in acquiring and servicing a customer that an ILEC allegedly would not also incur. This is the basis of his determination of an "absolute cost disadvantage." As the following paragraphs will make clear, however, the assumption underlying Mr. Turner's analysis about costs that he attributes to CLECs but not to ILECs is simply incorrect. Briefly, Mr. Turner's analysis is wrong for the following reasons:

- Mr. Turner attributes "hot cut" costs to each and every customer that might choose service from a CLEC. While Mr. Turner is correct that

the CLEC will incur costs associated with the hot cut to disconnect the loop serving the customer from BellSouth's switch and then re-connect the loop to the CLEC's switch, he ignores the fact that in cases where a customer chooses to return to the ILEC, those same work steps and the related costs (disconnection of the serving loop from the CLEC's switch and re-connecting the loop to the ILEC's switch) and associated costs will likewise be incurred by the ILEC.

- Mr. Turner attributes costs to perform Local Number Porting ("LNP") activities to the CLEC but does not likewise attribute those same costs to ILECs in cases where the customer chooses to return to the ILEC. In other words, the work steps required to "port" the telephone number from BellSouth's network to the CLEC's network are required to "port" the telephone number from the CLEC's network to BellSouth's network.
- Mr. Turner's analysis assumes that an efficient CLEC will collocate in every ILEC end office in which the CLEC has or will have mass market customers. For reasons Mr. Turner does not explain in his testimony, he assumes that CLECs will not make use of so-called Enhanced Extended Links ("EELs"), which reduce the quantity of collocation arrangements in a given Local Access Transport Area ("LATA") to as few as one.
- Mr. Turner's Facility Ring Processor ("FRP") tool used in his analysis does not reduce the total facility costs by the amount of the capacity required to handle that portion of the capacity used that is not for "backhauling" loops and that is not used for "enterprise" customer

traffic, but instead is used to carry interconnection traffic (that is, voice calls between the CLEC's customers and the customers of other local service providers including but not limited to other CLECs and ILECs). Here again, both ILECs and CLECs incur costs of transporting calls between and among the networks of various local service providers. However, Mr. Turner incorrectly leaves those costs in as part of his "absolute disadvantage" calculation.

Q. WHAT CORRECTIONS SHOULD BE MADE TO THE ASSUMPTIONS UNDERLYING MR. TURNER'S ANALYSIS?

A. Corrections should be made to each of the areas I discussed above. Once the following corrections are made, the "absolute disadvantage" costs he attempts to calculate is reduced:

- Hot cut costs should be eliminated from Mr. Turner's model as those costs are incurred by both CLECs and ILECs as part of customer acquisition or reacquisition. Mr. Turner suggests that perhaps as much as 5% customer churn between local service providers per year might occur. Taking this churn into account leads to the conclusion that all local service providers using their own or a third party's switches will incur hot cut costs.
- LNP costs should be eliminated from Mr. Turner's model as those costs are incurred by both CLECs and ILECs as part of customer acquisition or reacquisition.
- "Backhaul" costs should be reduced from the levels shown in Mr.

Turner's model to account for the use of EELs instead of collocation in certain ILEC central offices. The use of EELs assumes that UNE transport is available for the interoffice transport portion of the EEL. Even if BellSouth were to receive relief from providing transport in certain instances, the CLEC could then use commingled UNE loops and special access transport.

- "Backhaul" costs should be reduced from the levels shown in Mr. Turner's model to eliminate costs associated with conveying interconnection traffic from the CLEC's network to the networks of other local service providers.

Q. ARE THE ADJUSTMENTS YOU DESCRIBE ABOVE THE ONLY ADJUSTMENTS YOU BELIEVE SHOULD BE MADE?

A. No. There is one other adjustment that should be made that will reduce even further Mr. Turner's "absolute disadvantage". That adjustment addresses Mr. Turner's suggestion that ILECs may assess a minimum square footage charge for collocation. In accordance with the FCC's rules, BellSouth offers cageless collocation without any minimum square footage requirement. Instead, the CLEC can acquire floor space amounts as small as that required for a single equipment bay, which Mr. Turner's analysis ignores.

Q. DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF A. WAYNE GRAY

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

FEBRUARY 27, 2004

Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH").

A. My name is A. Wayne Gray. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375. My title is Director – Regional Planning and Engineering Center in BellSouth's Network Planning and Support organization.

Q. ARE YOU THE SAME A. WAYNE GRAY WHO PREVIOUSLY FILED DIRECT TESTIMONY IN THIS DOCKET ON JANUARY 16, 2004?

A. Yes.

Q. ARE YOU RESPONSIBLE FOR ENSURING THAT BELLSOUTH PROVISIONS COLLOCATION ARRANGEMENTS ON A TIMELY BASIS?

A. Yes. I am responsible for ensuring that BellSouth provisions collocation arrangements in the timeframes required by state commissions, including the

Tennessee Regulatory Authority ("Authority"), and BellSouth's interconnection agreements.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony rebuts portions of the direct testimony of MCI witness James D. Webber and AT&T witnesses Jay M. Bradbury and Mark Van De Water. These witnesses allege that competitive carriers are "impaired" as a result of issues regarding collocation in BellSouth's central offices. Such allegations are not true. As an initial matter, the only collocation issue that the FCC directed the states to consider in assessing impairment is "whether a lack of sufficient collocation space gives rise to impairment in [a] market." TRO ¶ 472. As set forth in my direct testimony, the availability of sufficient collocation space in BellSouth's Tennessee central offices is not a problem and certainly does not give rise to impairment. Notably, none of the Competitive Local Exchange Carrier ("CLEC") witnesses cite even a single instance of an alleged space availability issue. Moreover, BellSouth has consistently achieved excellent results with respect to the collocation performance measurements established by the Authority, as discussed in greater detail in the testimony of BellSouth witness Alphonso Varner.

Testimony of MCI Witness James D. Webber

Q. ON PAGES 11 – 12, MR. WEBBER ALLEGES THAT "WITHOUT COLLOCATION OR SOME OTHER METHOD OF PHYSICALLY ACCESSING CUSTOMER LOOPS – SUCH AS EELS. . . – MCI CANNOT OFFER SERVICES

TO MOST OF ITS CURRENT, OR EMBEDDED, BASE OF CUSTOMERS ABSENT ACCESS TO UNBUNDLED LOCAL SWITCHING. DOES BELLSOUTH CURRENTLY HAVE SPACE AVAILABLE FOR COLLOCATION IN ITS TENNESSEE CENTRAL OFFICES?

A. Yes. As I testified in my direct testimony, collocation space is currently available in all of BellSouth's central office in Tennessee. If MCI needs collocation space in any of BellSouth's wire centers in Tennessee, BellSouth is committed to working closely with MCI to provide whatever collocation space MCI may need to serve its mass market customers.

Q. IN REGARD TO EELS, CAN MCI ORDER EELS TODAY AND USE THESE EELS TO CONVERT ITS EMBEDDED UNE-P CUSTOMER BASE TO UNE-L?

A. Yes. MCI can order a UNE-L (UNE-Loop) and DS0 transport service as an extended enhanced loop ("EEL") from its collocation space in one central office to its collocation space in another central office or to its own Point of Presence ("POP") or switch today.

Q. IS THE FACT THAT MCI HAS CHOSEN NOT TO COLLOCATE IN ALL OF BELLSOUTH'S CENTRAL OFFICES IN TENNESSEE OR REQUEST EELS TO SERVE ITS MASS MARKET CUSTOMERS RELEVANT IN THIS AUTHORITY'S DETERMINATION OF COLLOCATION IMPAIRMENT?

B. No. MCI has made a choice not to collocate in all of the BellSouth central offices in Tennessee, which serve its UNE-P (UNE Platform) customers. Furthermore, it appears that MCI has not ordered any EELs to serve these same customers. However, in the context of this proceeding, these facts are irrelevant. MCI has had, and will continue to have, very little incentive to collocate its equipment in these other central offices or request EELs from BellSouth, as long as BellSouth is required to provide unbundled switching and UNE-P.

Q. ON PAGE 46, MR. WEBBER ARGUES THAT BECAUSE CLECS HAVE TO COLLOCATE, THEY ARE "BY DEFINITION - DISADVANTAGED AND THEREFORE POTENTIALLY IMPAIRED." DO YOU AGREE?

A. No. As I stated above, the only question regarding collocation that is relevant under the impairment analysis set out by the FCC in its Triennial Review Order is whether a lack of sufficient collocation space gives rise to impairment in a particular market. There is no dispute that collocation space is currently available in all of BellSouth's central offices in Tennessee.

Q. ON PAGE 46, MR. WEBBER INDICATES THAT MCI IS NOT COLLOCATED IN ENOUGH OFFICES TO SERVE ITS UNE-P MASS MARKET CUSTOMER BASE. PLEASE COMMENT.

A. That MCI is not currently collocated in all of the BellSouth central offices that serve MCI's UNE-P customers is irrelevant. Collocation space is available to

MCI in Tennessee and BellSouth is ready to provide whatever collocation space MCI may require to serve its mass market customers.

Q. ON PAGE 47, MR. WEBBER SPECULATES, WITHOUT ANY EVIDENCE, THAT IT IS "UNCLEAR WHETHER THE CLECS. . . WILL BE ABLE TO OBTAIN COLLOCATION ARRANGEMENTS IN CONJUNCTION WITH THE NECESSARY TRANSPORT FACILITIES ON A TIMELY BASIS." IS HIS UNSUBSTANTIATED SPECULATION CORRECT?

A. Absolutely not. Mr. Webber does not provide a single instance when MCI has been unable to obtain collocation in a timely manner. Pursuant to the Service Quality Measurement (SQM) plan this Authority established, BellSouth is measured every month on the time it takes to respond to all CLEC collocation applications (C-1 Measurement), the time it takes BellSouth to provision a collocation arrangement (C-2 Measurement), and the percentage of collocation provisioning interval due dates missed by BellSouth (C-3 Measurement). BellSouth's performance under the Authority's collocation measures has been uniformly superb and BellSouth is committed to devoting the resources necessary to continue meeting the intervals prescribed by this Authority.

Q. HAS BELLSOUTH EVER MISSED ANY OF ITS COLLOCATION PROVISIONING INTERVALS IN TENNESSEE?

A. No. BellSouth's goal is to complete the provisioning of collocation space as quickly as possible. Moreover, a CLEC may request permission to occupy its

requested collocation space, and BellSouth will not unreasonably withhold its permission, prior to the completion of the space preparation activities by BellSouth. This would enable the CLEC to install its equipment and facilities at the same time that BellSouth is completing its work activities to prepare the space in accordance with the CLEC's specifications.

Q. MR. WEBBER SPECULATES ON PAGE 48 THAT EVEN IF CLECS WERE TO OBTAIN COLLOCATION, "IT IS NOT UNCOMMON TO EXPERIENCE SIGNIFICANT DELAYS BEFORE GAINING ACCESS TO THE REQUESTED ARRANGEMENTS." IS HE RIGHT?

A. No. BellSouth is not aware of any CLEC that has been unable to access its collocation arrangement pursuant to the terms and conditions contained in the CLEC's interconnection agreement and Mr. Webber cites no evidence to support his assertion to the contrary.

BellSouth does have certain security access requirements that the CLEC must comply with, including certification that its employees and vendors have completed security training and meet certain security requirements, in order to gain access to a specific central office. However, once the CLEC has met these requirements, there would be no reason for a CLEC to be denied access to the central office in which its collocation arrangement is located. If the CLEC fails to comply with the security requirements, then the CLEC has the right to request a BellSouth Security Escort, which will be coordinated and scheduled with the CLEC before the CLEC is permitted access into the requested central office.

Testimony of AT&T Witness Jay M. Bradbury

Q. ON PAGE 10, MR. BRADBURY STATES THAT "CLEC BACKHAUL COSTS INCLUDE THE NON-RECURRING COSTS NECESSARY TO ESTABLISH A COLLOCATION ARRANGEMENT IN EVERY ILEC WIRE CENTER IN WHICH THE CLEC WISHES TO OFFER MASS MARKET SERVICES." PLEASE COMMENT.

A. Mr. Bradbury is wrong. It is not necessary for a CLEC to collocate in every central office in which it wishes to offer mass market services. The CLEC can purchase from BellSouth an EEL, which is a combination of a local loop and interoffice transport to a wire center where the CLEC's switch is collocated. BellSouth also offers an assembly point product, which allows CLECs to combine unbundled network elements ("UNEs") in a specific central office, without the necessity for the CLEC to collocate in that office.

With respect to the rates a CLEC incurs for collocation, the Authority established those rates in previous proceedings. Any complaint that AT&T may have about the Authority-approved rates should be raised in the next cost proceeding and certainly does not constitute any grounds for a finding of impairment.

Q. ON PAGE 22, MR. BRADBURY STATES THAT "THE FCC'S RULES DO NOT PERMIT A CLEC TO PLACE A CIRCUIT SWITCH IN A COLLOCATION" AND THEN QUOTES FROM 47 C.F.R. §51.323 AS SUPPORT. IS HE CORRECT?

A. No. 47 C.F.R. § 51.323(b) states:

> An incumbent LEC shall permit the collocation and use of any equipment necessary for interconnection or access to unbundled network elements.

The FCC goes on to clarify the above statement in subsections (b)(1) – (3) of the Rule as follows:

> (1) Equipment is necessary for interconnection if an inability to deploy that equipment would, as a practical, economic, or operational matter, preclude the requesting carrier from obtaining interconnection with the incumbent LEC at a level equal in quality to that which the incumbent obtains within its own network or the incumbent provides to any affiliate, subsidiary, or other party.
>
> (2) Equipment is necessary for access to an unbundled network element if an inability to deploy that equipment would, as a practical, economic, or operational matter, preclude the requesting carrier from obtaining nondiscriminatory access to that unbundled network element, including any of its features, functions, or capabilities.
>
> (3) Multi-functional equipment shall be deemed necessary for interconnection or access to an unbundled network element if and only if the primary purpose and function of the equipment, as the requesting carrier seeks to deploy it, meets either or both of the standards set forth in paragraphs (b)(1) and (b)(2) of this section. For a piece of equipment to be utilized primarily to obtain equal in quality interconnection or nondiscriminatory access to one or more unbundled network elements, there also must be a logical nexus between the additional functions the equipment would perform and the telecommunication services the requesting carrier seeks to provide to its customers by means of the interconnection or unbundled network element. The collocation of those functions of the equipment that, as stand-alone functions, do not meet either of the standards set forth in paragraphs (b)(1) and (b)(2) of this section must not cause the equipment to significantly increase the burden on the incumbent's property.

Q. DO THE FCC'S RULES PRECLUDE A CLEC FROM PLACING A CIRCUIT SWITCH IN A COLLOCATION ARRANGEMENT?

A. No, so long as the circuit switch is being used for the purpose(s) of interconnecting and/or accessing unbundled network elements.

Q. DOES BELLSOUTH PERMIT CLECS TO PLACE CIRCUIT SWITCHES IN COLLOCATION SPACE?

A. Yes, as long as the CLEC is utilizing the circuit switch **primarily** for the purposes of interconnection and/or access to unbundled network elements.

Q. ON PAGE 26, MR. BRADBURY APPEARS TO IMPLY THAT SUFFICIENT COLLOCATION SPACE DOES NOT EXIST IN THE ILEC'S CENTRAL OFFICES. IS HIS ASSESSMENT ACCURATE?

A. No. While BellSouth cannot speak on behalf of the other ILECs in Tennessee, as I testified above, collocation space is available in every BellSouth central office in Tennessee.

Q. ON PAGE 27, MR. BRADBURY STATES THAT "THE COLLOCATION POWER CHARGES ARE DRIVEN BY THE CHARGES FOR REDUNDANT POWER FEEDS (SIZED FOR THE MAXIMUM DEMAND IN THE COLLOCATION) AND THE NECESSARY HVAC FOR THE COLLOCATED EQUIPMENT." IS HE CORRECT?

A. Only partially. Mr. Bradbury is correct that the collocation power charges are driven by the charges for redundant power feeds ("A and B" power cable feeds). However, he is not correct in his statement that collocation power charges are driven by the necessary HVAC for the collocated equipment. BellSouth's DC power charges do not include any HVAC costs associated with collocation. These costs are recovered in the monthly Floor Space Charges paid by the CLECs to BellSouth, not in the DC Power charges.

Q. MR. BRADBURY NOTES THAT "IN TENNESSEE, A RECENT RULING BY THIS AUTHORITY NOW REQUIRES THAT ILECS BILL CLECS FOR POWER BASED ON THE POWER ACTUALLY USED RATHER THAN BY FUSED AMPS." HAS THE PROVISIONING AND BILLING OF DC POWER RECENTLY CHANGED IN TENNESSEE?

A. Yes. In its ruling in Docket No. 00-00309, In Re: Petition of MCImetro Access Transmission Services, LLC and Brooks Fiber Communications of Tennessee, Inc. for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc. concerning Interconnection and Resale under the Telecommunications Act of 1996 ("MCI Arbitration Order") on April 3, 2002, the Authority required that "the per ampere rate for the provision of DC power to WorldCom's [MCI's] collocation space should apply to amperes used and not to fused capacity" (Issue No. 61). The Authority clarified its decision in regard to this issue in its Order Denying Reconsideration, Granting Clarification, and Adopting WorldCom's Final Best Offer, released May 30, 2002, by

concluding that "WorldCom [MCI] should pay the reasonable cost of monitoring actual DC consumption given that WorldCom [MCI] has consistently maintained that power consumption should be measured by the amps used." Therefore, the Authority ordered "WorldCom [MCI] to pay the expense associated with the monitoring of the actual DC power consumed."

In compliance with the Authority's decision in the MCI Arbitration Order, BellSouth has developed a DC power metering option for those CLECs in Tennessee that wish to move from the standard fused amperage billing structure to a measured (usage) power billing structure. This option is available to those CLECs currently negotiating with BellSouth to establish a new Tennessee interconnection agreement and CLECs with current Tennessee interconnection agreements, as an amendment to their existing agreement. The costs of performing the meter reading activities by either BellSouth or a Certified Power Supplier engaged by BellSouth, as well as the costs to administer the power billing alternative, are passed along to the CLECs through nonrecurring and monthly recurring charges. This is in accordance with the Authority's clarification that the costs associated with the monitoring of the actual DC power consumed are to be paid by the CLEC requesting the power metering option.

Q. ON PAGES 27 AND 28, MR. BRADBURY COMPLAINS THAT "THE AVERAGE COST OF COLLOCATION . . . MAY BECOME PROHIBITIVE, BECAUSE THE EQUIPMENT DEPLOYED ACTUALLY REQUIRES SUBSTANTIALLY LESS SPACE AND/OR POWER THAN THE MINIMUM SPACE REQUIRED OR POWER CHARGED FOR BY THE ILEC." IS HIS ASSESSMENT ACCURATE?

A. No. Mr. Bradbury's complaint is mere speculation and is not supported by any facts. Moreover, as noted above, BellSouth has already made available a usage-based billing option for DC power. In regard to Mr. Bradbury's allegation regarding minimum space requirements, BellSouth permits CLECs to request cageless collocation space in increments as small as that required for a single bay or rack of equipment. For caged collocation space, BellSouth recently reduced its minimum requirement from 100 square feet to 50 square feet. Additional increments of 50 square feet for caged collocation will continue to be allowed.

Q. FINALLY, AT THE TOP OF PAGE 28, MR. BRADBURY STATES THAT "THE INCUMBENT SOMETIMES APPLIES LARGE UP-FRONT ONE-TIME CHARGES FOR THE COLLOCATION APPLICATION, CAGE ENGINEERING (WHETHER FOR SPACE OR POWER) OR ADMINISTRATIVE FEES (SUCH AS PROJECT MANAGEMENT, SPACE AVAILABILITY REPORTS, ETC.)." IS HE CORRECT?

A. No. As an initial matter, BellSouth's collocation rates have been established by this Authority. Non-recurring charges allow BellSouth to recover the one-time costs it incurs to provision collocation space for the CLEC. BellSouth's Initial Cageless - Application Fee of $2,633.00 covers BellSouth's nonrecurring costs associated with the CLEC's submission of an initial application or service inquiry requesting a cageless collocation arrangement. Similarly, BellSouth's Initial Caged Collocation – Application Cost – Planning charge of $2,903.66 covers

BellSouth's nonrecurring costs associated with the CLEC's submission of an initial application, subsequent application, or service inquiry requesting a caged collocation arrangement. These fees include the following work activities performed by BellSouth's employees and suppliers: reviewing the initial application and collocation agreement, gathering, preparing and distributing BellSouth's application response to the customer, processing the application fee, setting up billing account information, coordinating meetings with the appropriate work groups, developing a project timeline, resolving any Network issues, reviewing power capacity requirements to ensure that adequate capacity is available, determining the availability of duct space, researching options for the point of interconnection, reviewing the facility requested, entering tracking data and the associated work request(s), reviewing the application for space, power, and cabling requirements, performing a site visit to verify space availability and inspecting space conditions, coordinating space selection, preparation, cable and power requirements, and performing a central office survey and cost estimate for the CLEC.

Q. DOES BELLSOUTH APPLY LARGE UP-FRONT ONE-TIME CHARGES FOR "CAGE ENGINEERING (WHETHER FOR SPACE OR POWER)" AS MR. BRADBURY ALLEGES?

A. No. BellSouth does not assess one-time (nonrecurring) charges for the floor space associated with a caged collocation arrangement, the central office and common system modifications required to accommodate caged collocation

space, or the amount of –48V DC power requested by the CLEC. The fees to recover those costs are all billed as monthly recurring charges.

Q. WHAT DOES BELLSOUTH CHARGE FOR ADMINISTRATIVE FEES (SUCH AS PROJECT MANAGEMENT, SPACE AVAILABILITY REPORTS, ETC.)?

A. "Administrative fees" (such as project management fees) are included in BellSouth's Initial Application Fee (which is described above) or in the Firm Order Processing fee of $1,204.00, which includes the nonrecurring costs associated with BellSouth's receipt, review, and processing of a collocation Bona Fide Firm Order. These costs include processing payments, distributing information to various work groups, scheduling meetings internally and externally, and establishing and monitoring project critical dates.

BellSouth only bills a CLEC for a Space Availability report when a CLEC requests that BellSouth prepare this report for a specific central office. The CLEC is not billed for this report until after BellSouth has provided the requested report to the CLEC. To my knowledge, AT&T has never requested a Space Availability Report for any central office in the BellSouth Region.

Testimony of AT&T Witness Mark Van De Water

Q. ON PAGE 42, MR. VAN DE WATER CITES PARAGRAPH 514 OF THE FCC'S TRO AS REQUIRING BELLSOUTH TO "*PROVIDE"* CROSS-CONNECTIONS BETWEEN THE FACILITIES OF TWO CLECS (emphasis in original). WHAT

ARE THE FCC'S RULES REGARDING BELLSOUTH'S OBLIGATION TO PROVIDE CO-CARRIER CROSS-CONNECTIONS?

A. 47 C.F.R. § 51.323(b)(h) states:

> (h) As described in paragraphs (1) and (2) of this section, an incumbent LEC shall permit a collocating telecommunications carrier to interconnect its network with that of another collocating telecommunications carrier at the incumbent LEC's premises and to connect its collocated equipment to the collocated equipment of another telecommunications carrier within the same premises, provided that the collocated equipment is also used for interconnection with the incumbent LEC or for access to the incumbent LEC's unbundled network elements.
>
> (1) An incumbent LEC shall provide, at the request of a collocating telecommunications carrier, a connection between the equipment in the collocated spaces of two or more telecommunications carriers, ***except to the extent the incumbent LEC permits the collocating parties to provide the requested connection for themselves or a connection is not required under paragraph (h)(2) of this section.*** Where technically feasible, the incumbent LEC shall provide the connection using copper, dark fiber, lit fiber, or other transmission medium, as requested by the collocating telecommunications carrier. (emphasis added)
>
> (2) ***An incumbent LEC is not required to provide a connection between the equipment in the collocated spaces of two or more telecommunications carriers if the connection is requested pursuant to section 201 of the Act, unless the requesting carrier submits to the incumbent LEC a certification that more than 10 percent of the amount of traffic to be transmitted through the connection will be interstate.*** The incumbent LEC cannot refuse to accept the certification, but instead must provision the service promptly. Any incumbent LEC may file a section 208 complaint with the Commission challenging the certification if it believes that the certification is deficient. No such certification is required for a request for such connection under section 251 of the Act. (emphasis added)

Q. DOES BELLSOUTH COMPLY WITH THE FCC'S RULES?

A. Yes. BellSouth permits collocated CLECs to provision the necessary CCXCs themselves, in compliance with 47 C.F.R. § 51.323(b)(h)(1).

Q. WHAT ABOUT THE FCC'S REQUIREMENT UNDER 47 C.F.R. § 51.323 (b)(h)(2)? HAS BELLSOUTH FILED A SECTION 201 CCXC OFFERING IN ITS FCC TARIFF NO. 1?

A. Yes. BellSouth recently filed its Section 201 CCXC tariff offering in FCC Tariff No. 1 as required by 47 C.F.R. § 51.323(b)(h)(2). In order to differentiate the tariff offering, CCXCs offered pursuant to the tariff are called "Intra-Office Collocation Cross Connects" in the tariff. This tariff is in effect, so AT&T and other CLECs can place orders pursuant to the Section 201 tariff offering. However, as the FCC has stated in its rules, any CLEC that orders this product must certify that more than 10% of the traffic transmitted over this intra-office cross connection will be interstate.

Q. ON PAGES 44 - 48, MR. VAN DE WATER COMPLAINS ABOUT BELLSOUTH'S POLICY REGARDING THE USE OF MULTIPLE COMPANY CODES TO PLACE ORDERS TO COLLOCATION ARRANGEMENTS. WHAT IS BELLSOUTH'S UNDERSTANDING OF THIS ISSUE?

A. BellSouth understands that this issue arises due to AT&T's use of multiple company codes. AT&T is complaining that one AT&T entity cannot place orders on behalf of another AT&T entity for services that it wishes to originate or terminate to the second AT&T entity's collocation space. What has happened is that AT&T has established its collocation sites using the Access Customer Name Abbreviation ("ACNA")"ATX" (for AT&T), but is placing service requests to these sites using the ACNA "TPM" for Teleport Communications Group or "FIM" for North Point (both of which AT&T acquired). In other words, AT&T wishes to permit those entities it has acquired over the years, and which have different ACNAs, to place orders to the collocation sites that belong to the ACNA "ATX" for AT&T. When AT&T orders collocation space from BellSouth, the collocation "address" is built into the cable and pair identification records using the ACNA of the ordering CLEC. It is BellSouth's policy not to accept assignments from CLECs other than the owner of the collocation space in order to protect a CLEC's assets/property. Therefore, BellSouth's ordering and provisioning systems are designed to prevent unauthorized assignment of its customers' collocation assets.

Q. ON PAGE 44, MR. VAN DE WATER ARGUES THAT "BELLSOUTH'S POLICIES, PRACTICES, AND SYSTEMS EFFECTIVELY PREVENT A CLEC FROM BEING ABLE TO ORDER A LOOP FROM BELLSOUTH AND SWITCHING FROM ANOTHER CLEC." IS THIS TRUE?

A. No. BellSouth's policies, practices, and systems do not prohibit a CLEC from ordering a UNE loop from BellSouth and the switching function from another

CLEC, except when the CLEC is requesting that a DS0 UNE loop be provided to another CLEC's collocation space.

Q. IN SUPPORT OF HIS ARGUMENT, MR. VAN DE WATER ALLEGES "IF AT&T WERE TO SUBMIT A SERVICE REQUEST TO PURCHASE A LOOP FROM BELLSOUTH AND DELIVER IT TO ANOTHER CLEC'S COLLOCATION, BELLSOUTH'S SYSTEMS COULD NOT PROCESS THE ORDER." PLEASE COMMENT.

A. If AT&T were trying to order a UNE loop at a DS0 level to terminate to another CLEC's collocation space, BellSouth's ordering system would reject the order for manual intervention for the reasons described above, because AT&T's ACNA and the receiving CLEC's ACNA are different. BellSouth's billing systems cannot process a LSR at the DS0 (2-wire or 4-wire) level of service for the connection of a local loop to another CLEC's collocation space, because the collocation "address" is built into the cable and pair identification records using the ACNA of the ordering CLEC. This requirement has been in place from the initial implementation of BellSouth's ordering system for all DS0 level services. If AT&T wished to place an order for transport to another CLEC's collocation space, at a DS1 or higher level of service, and the receiving carrier had provided AT&T with the appropriate terminating Connecting Facility Assignment ("CFA") and a Letter of Authorization ("LOA") indicating its permission for AT&T to terminate its transport into the receiving CLEC's collocation space, then BellSouth could process the order through its ordering system as requested by AT&T. It should be noted that AT&T would be the party billed for the service and

would be responsible for requesting the appropriate cross connection, by service type (DS1, DS3, 2-fiber, or 4-fiber). If the service requested by AT&T was for the termination of UNE transport into another CLEC's collocation space, then the associated cross-connects would be those contained in AT&T's interconnection agreement. If AT&T ordered its transport service from the tariff, then the appropriate cross-connects contained in the associated tariff would apply.

Q. IN LIGHT OF THE ORDERING SYSTEM ISSUE IDENTIFIED ABOVE, HOW COULD A CLEC ACHIEVE ITS DESIRE TO PLACE AN ORDER FOR A DS0 LOOP FROM BELLSOUTH AND WHOLESALE SWITCHING FROM ANOTHER CLEC?

A. The most effective means for AT&T to eliminate this problem is to use BellSouth's "Transfer of Ownership" process to convert all of its collocation sites to one common ACNA, presumably the "ATX" ACNA. This would eliminate AT&T's concern and there would be no further fall-out of AT&T's orders in BellSouth's ordering and provisioning systems resulting from the use of multiple ACNAs.

Another option would be for the ordering CLEC (in this case, AT&T) to request a DS0 loop into its collocation space and then place a co-carrier cross connection ("CCXC") between its collocation space and that of the receiving CLEC, if both CLECs have collocation space in the same central office. This would allow the ordering CLEC and the receiving CLEC to directly exchange their traffic in the same central office, without any intervention by BellSouth.

Finally, AT&T could use a "Guest/Host" collocation arrangement to establish a guest presence in the central office for which AT&T would be ordering services. Under the "Guest/Host" arrangement, each Guest/Host ACNA has a unique Access Carrier Terminal Location ("ACTL") and specific CFAs assigned to it within the caged collocation space. Using the Guest/Host scenario, for illustrative purposes, suppose that AT&T is trying to order wholesale switching from MCI. This arrangement would be made possible through the following steps: First, MCI (or the "Host" in this scenario) would place a Collocation Augment Application, pursuant to its interconnection agreement, and submit an LOA to BellSouth for the new entity, AT&T (the "Guest" in this scenario). With a Guest/Host arrangement, if the Augment Application requests that MCI's existing CFAs be converted to a new ACNA/ACTL for AT&T, then BellSouth will perform the work required to make the necessary changes in BellSouth's cable and pair assignments and update its facility assignment databases. As soon as BellSouth has completed the migration of these CFAs to reflect the assignment of these CFAs to AT&T, then MCI will be notified that BellSouth can accept orders from AT&T. If the Augment Application submitted by MCI requests that new CFA facilities be provisioned under AT&T's ACTL, then BellSouth will perform the work necessary to complete the assignment of the new CFAs and then begin accepting orders directly from AT&T using these new CFAs.

Q. ON PAGE 50, MR. VAN DE WATER STATES THAT "IF UNBUNDLED LOCAL SWITCHING IS NO LONGER AVAILABLE TO COMPETITORS, ALL

COMPETITORS WILL HAVE TO INSTALL THEIR OWN FACILITIES IN COLLOCATION SPACE." IS THIS TRUE?

A. It depends. If a CLEC already has sufficient collocation space in the central offices that serve its mass market customers, then there would be no need for the CLEC to augment its existing space. However, if the CLEC does not have collocation space in a particular office or does not have sufficient space in a particular office to serve its mass market customers, then the CLEC must request a new collocation arrangement, augment an existing collocation arrangement or use EELs to reach these customers.

In those instances in which a CLEC does not currently have the necessary collocated facilities and network equipment in place to support the migration of its embedded base of UNE-P customers, the CLEC may request new or additional collocation space for the placement of its network equipment to achieve the migration of its UNE-P customers over to UNE-L. Pursuant to this request, BellSouth would complete any such request for collocation space within the Authority-ordered provisioning intervals (which are dependent upon the type of collocation space requested – i.e., virtual, caged or cageless) or pay substantial penalties for missing these intervals. As soon as BellSouth receives an order for collocation space from a CLEC, BellSouth begins preparing the space to meet the specifications requested by the CLEC. In addition, the CLEC can request permission to occupy the requested space prior to BellSouth's completion of the space provisioning.

Q. IS THERE ANY OTHER TYPE OF ARRANGEMENT, BESIDES COLLOCATION, THAT CAN BE USED BY A CLEC TO REACH ITS CUSTOMERS IF UNBUNDLED LOCAL SWITCHING IS ELIMINATED?

A. Yes. As I stated above, a CLEC may also order EELs from its end user at the DS0 level (which may or may not terminate into the CLEC's collocation space) to its switch, POP or other designated location as a means of converting its embedded UNE-P base to UNE-L service. The DS0 transport piece of the EEL may terminate to the CLEC's collocation space or it may terminate directly at the CLEC's POP.

Q. MR. VAN DE WATER ALSO IMPLIES THAT BELLSOUTH MAY NOT BE ABLE TO ACCOMMODATE A "DRAMATIC" INCREASE IN COLLOCATION SPACE IF UNBUNDLED LOCAL SWITCHING IS NO LONGER AVAILABLE TO CLECS? PLEASE COMMENT.

A. Mr. Van de Water's testimony on this point is nothing more than speculation. Mr. Van De Water cites no facts to support his suggestion that BellSouth is not equipped to handle the processing of the increased collocation applications it might receive in the future. Furthermore, Mr. Van de Water overlooks the fact that if the number of collocation applications received by BellSouth significantly increases, so that there becomes a need for BellSouth to increase its current staffing levels, BellSouth is prepared to do so. Also, BellSouth is continually analyzing and updating its electronic ordering system, called the e.App system,

for the processing of collocation applications to ensure that BellSouth uses the most efficient means of processing all requested applications.

Q. MR. VAN DE WATER FURTHER SPECULATES THAT THE "INTERVAL TO OBTAIN AND BUILD OUT COLLOCATION SPACE LIKELY WILL INCREASE." DO YOU AGREE?

A. Absolutely not. As demonstrated in BellSouth witness Al Varner's testimony, BellSouth's current performance clearly shows that BellSouth is extremely committed to providing carriers with collocation space in its central offices as quickly as possible and in accordance with the provisioning intervals ordered by this Authority. Mr. Van De Water implies that this will change if BellSouth experiences an increase in the number of collocation applications it receives, which Mr. Van De Water is assuming will be significantly greater than the number of current applications being processed by BellSouth today. Mr. Van De Water neglects to mention, however, that if BellSouth fails to meet the performance standards ordered by this Authority, BellSouth must pay SEEMs penalties to those CLECs that are directly affected by BellSouth's inability to complete the CLECs' collocation arrangements within the required provisioning intervals. Consequently, BellSouth has no incentive to delay the provisioning of a CLEC's requested collocation space and every incentive to continue to provision space on a timely basis.

Q. FINALLY, ON PAGE 50, MR. VAN DE WATER SUGGESTS THAT SUFFICIENT COLLOCATION SPACE MAY NOT BE AVAILABLE IN SMALL, REMOTE CENTRAL OFFICES. DO YOU AGREE?

A. No. In fact, typically it is the smaller, rural (which is what I believe Mr. Van De Water is referring to by his reference to “remote”) central offices that have more collocation space available than many of the larger offices. It has been BellSouth’s experience that frequently it is the larger central offices or those central offices that are located in densely populated, metropolitan areas that are the most likely to reach space exhaust. This is likely due to the fact that these larger offices typically house a BellSouth tandem switch or serve a large customer base in a densely populated and/or fast-growing area.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF ERIC FOGLE

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

FEBRUARY 27, 2004

Q. PLEASE STATE YOUR NAME, YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH") AND YOUR BUSINESS ADDRESS.

A. My name is Eric Fogle. I am employed by BellSouth Resources, Inc., as a Director in BellSouth's Interconnection Operations Organization. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375.

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR BACKGROUND AND EXPERIENCE.

A. I attended the University of Missouri in Columbia, where I earned a Master of Science in Electrical Engineering Degree in 1993 and Emory University in Atlanta, where I earned a Master of Business Administration degree in 1996. After graduation from Missouri, I began employment with AT&T as a Network Engineer, and joined BellSouth in early 1998 as a Business Development Analyst in the Product Commercialization unit. From July 2000, through May 2003, I was responsible for the Wholesale Broadband Marketing group within BellSouth. I assumed my current position in June

2003. First, as a Business Analyst, and then as the Director of the Wholesale Broadband Marketing Group, I have been actively involved in the evolution and growth of BellSouth's DSL based services as well as the underlying technology.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to rebut the direct testimony of Mr. Van de Water and Mr. Bradbury on behalf of AT&T Communications of the Southern States, LLC ("AT&T"), and Ms. Lichtenberg on behalf of MCI WorldCom Communications, Inc. and MCIMetro Access Transmission Services, Inc. ("MCI") by demonstrating that BellSouth has in place a hot cut process for loops that involve Line Sharing and Line Splitting xDSL services during UNE-P to UNE-L migrations. My testimony also demonstrates, contrary to any suggestion of Ms. Lichtenberg, that BellSouth has voluntarily involved the Competitive Local Exchange Carrier ("CLEC") community in the development of this process, including prioritization of BellSouth work efforts regarding Line Sharing, Line Splitting and various subsequent migration scenarios in which the CLECs are just now becoming interested.

Q. PLEASE DESCRIBE WHAT YOU MEAN BY A UNE-P AND A UNE-L.

A. A UNE-P is a combined loop and port. For a UNE-P, the loop and port are combined in BellSouth's network. A UNE-P does not require any

additional elements, nor does UNE-P require either collocation or additional switching capability in order to provide a functioning service for the end-user. A UNE-L is a standalone UNE Loop, and requires collocation and additional switching capability (both provided by the facilities based CLEC) in order to provide a functioning switched voice service for the end-user.

Q. WHAT IS LINE SPLITTING?

A. Line splitting occurs when a voice CLEC provides voice service and a data local exchange company ("DLEC") provides the xDSL service (in some cases the xDSL and voice services are provided by the same CLEC). This dual provider arrangement is known as Line Splitting. BellSouth facilitates Line Splitting as a service to CLECs and DLECs, to accommodate the sharing of the spectrum between the voice and data services provided by each carrier. As part of this service, BellSouth will provide cross-connects, and, if requested, a frequency splitter (although BellSouth is not obligated to provide the splitter by the Triennial Review Order ("TRO"). In this role, BellSouth simply acts as a mere facilitator between the CLEC and the DLEC.

Q. HOW DOES A UNE-P WORK WITH LINE SPLITTING?

A. When a carrier with an existing UNE-P combination enters into a Line Splitting arrangement with another carrier, the loop that has historically

been used to serve the customer is no longer combined with the port, therefore breaking up the UNE-P platform. Instead, central office work is performed to cross-connect the loop to a splitter, which one of the CLECs usually owns. The splitter separates the frequency used to provide the voice service from the frequency used to provide the data services. From there, another collocation cross-connection is used to carry the voice signal to the port on the voice CLEC's switch, while the data signal is carried to the DLEC's network. Thus, the loop and port are no longer combined but, rather, are separated by two collocation cross-connections and a piece of CLEC-provided equipment. Exhibit EF-1 depicts a typical line splitting arrangement. Exhibit EF-2 depicts a typical UNE-P arrangement. As can be clearly seen by comparing the two drawings, the line splitting arrangement bears little resemblance to the UNE-P arrangement, and it is obvious that the UNE loop and port services purchased by the CLECs for the purposes of line splitting are very different from the UNE-P purchased by the CLECs.

Q. ON PAGE 36, MR. VAN DE WATER DEFINES LINE SPLITTING SERVICES AS "UNE-P BASED." IS THIS CHARACTERIZATION ACCURATE?

A. No. This is a common misconception throughout the industry. Line Splitting can not be provisioned over a UNE-P. The UNE-P (also known as UNE Platform) is only a combined UNE Port and a UNE Loop. By Federal Communications Commission ("FCC") definition it is impossible to

have Line Splitting via UNE-P. In order to use a UNE-P facility for Line Splitting, the CLEC must convert the UNE-P to a loop and port as the FCC clearly explained in the Texas 271 Order, ¶ 325. ("For instance, if a competing carrier is providing voice service using the UNE-platform, it can order an unbundled xDSL-capable loop terminated to a collocated splitter and digital subscriber line access multiplexer ("DSLAM") equipment and unbundled switching combined with shared transport, ***to replace its existing UNE-platform arrangement*** with a configuration that allows provisioning of both data and voice services.")(emphasis added). Accordingly, a UNE-P cannot be used in a Line Splitting environment but rather would need to first be converted to a shared UNE Loop, a UNE Port and cross connects. The shared UNE Loop used in this scenario is often referred to as a "shared loop".

The UNE-L is just that, a standalone UNE Loop that runs from the ultimate end-user to a collocation cage in the serving wire center. To use a UNE-L in a Line Splitting environment, the CLEC would need to have the necessary equipment in their collocation cage connected to the UNE-L. Accordingly, a UNE-L is but one piece of a total Line Splitting solution.

Q. WHO OWNS THE SPLITTER IN A LINE SPLITTING ARRANGEMENT?

A. Under the TRO, the CLEC is responsible for owning the splitter. Since BellSouth is not providing either the voice or data service to the end-user, it is not necessary for BellSouth to be involved between the two CLECs.

Q. ON PAGE 37, MR. VAN DE WATER MENTIONS THAT LINE SPLITTING IS NOT INCLUDED IN BELLSOUTH'S CURRENT BATCH HOT CUT PROCESS. PLEASE COMMENT.

A. With a CLEC-owned splitter, which is all that the TRO requires, the CLEC can manage their own 'hot cut' process for the voice service, without any involvement or coordination from BellSouth. The CLEC would simply disconnect the BellSouth switch port within its collocation space when moving the voice customer to its own switch port. A subsequent set of orders can then be placed to disconnect the BellSouth switch port that is no longer in use, and change the records associated with the loop facility to support the new service arrangement. The responsibility for the migration (if any) of the data service in this scenario lies with the CLEC who owns the splitter. Conversions of line-splitting are not encompassed in BellSouth's batch migration process because that process applies only to UNE-P to UNE-L migrations and, as described above, line splitting does not utilize UNE-P.

Q. HOW IS THE HOT CUT PROCESS DIFFERENT IF BELLSOUTH OWNS AND MAINTAINS THE SPLITTER, VS. THE DLEC OWNING AND MAINTAINING THE SPLITTER?

A. CLECs have the option in many situations of utilizing a BellSouth-owned splitter. CLECs need to weigh this option against the benefits of owning their own splitters. Introduction of any third party (in this case BellSouth)

ownership of the splitter may add possible down time for the end user during migrations. Additionally, if the existing Line Sharing or Line Splitting scenario is with a BellSouth owned splitter and the CLEC is migrating to a UNE-L, this requires a change from a BellSouth owned splitter to a CLEC owned splitter. This change requires altering cabling and accordingly the CLEC's end user will experience some xDSL service down time until the responsible CLEC completes the new cabling on their splitter.

If the existing Line Sharing or Line Splitting scenario is currently provisioned with a CLEC owned splitter, it is possible that no change in the splitter cabling would be necessary at the moment the CLEC migrates to a UNE-L. However, that is totally under the control of the CLEC, and only the CLEC would be able to determine the impact.

Q. IS IT POSSIBLE TO HAVE A VOICE SERVICE MIGRATION WITHOUT ANY INTERRUPTION OF CLEC'S DSL SERVICE?

A. Absolutely. With a CLEC-owned splitter, the CLEC can complete the hot cut of the voice service without interruption to the DSL service. In fact, unless the CLEC wants to move the DSL service, it is not necessary for any changes to be made to the DSL service.

Q. DOES THE BATCH HOT CUT PROCESS APPLY TO LINE SPLITTING?

A. No, BellSouth's batch hot cut process only applies to UNE-P to UNE-L conversions which were the subject of the TRO. As explained above, by FCC definition, Line Splitting cannot be accomplished using UNE-P and accordingly, the batch process is not applicable to hot cuts for lines that involve Line Splitting. CLECs can submit these orders, however, via the individual hot cut process. Given the low volume of line sharing and line splitting arrangements (less then 90 line splitting and less then 1800 line sharing) in Tennessee today, the batch process is not necessary to convert the embedded base.

Q. WOULD YOU PLEASE EXPLAIN WHY LINE SPLITTING WITH UNE-L, CLEC PROVIDED SWITCHING, AND CLEC-OWNED SPLITTER IS JUST NOW BECOMING AN ISSUE FOR CLECS?

A. Regulatory requirements for Line Splitting with CLEC provided switching and a CLEC-owned splitter is a totally new concept. Until October 2, 2003, Line Splitting was only available via a UNE Port, a UNE Loop, and collocation cross connects. The FCC, in its Triennial Review Order on page 10 of the Rules (§51.319(a)(1)(ii)(A)) for the first time expanded the definition of Line Splitting to include CLEC provided switching. Accordingly, now that the telecommunications industry has had time to read and digest the many changes contained in the FCC's Triennial Review Order, new ways of delivering xDSL services to end users are just now being considered and evaluated. Because this is all so new to all involved parties, it is just now being discussed between BellSouth and

CLECs.

Q. HAS BELLSOUTH TAKEN STEPS TO FACILITATE LINE SPLITTING WHEN A CLEC PROVIDES ITS OWN SWITCHING?

A. Yes. In its purest form, Line Splitting with a CLEC providing its own switching requires almost no effort on BellSouth's part. BellSouth's obligation is to insure that the CLECs have the ability to order the UNE-L from the end user to their collocation cage in the serving wire center. All other requirements to effectuate Line Splitting with CLEC provided switching are under the exclusive control of the CLEC and are the responsibility of the CLEC, not BellSouth. However, BellSouth has voluntarily gone beyond its obligations to assist the CLEC in facilitating various Line Splitting scenarios via the BellSouth/CLEC Line Sharing and Line Splitting Collaborative, as discussed later in this testimony.

Q. HOW MANY CLEC XDSL LINES ARE POTENTIALLY AFFECTED BY THESE CONVERSIONS?

A. As of December 31, 2003, in Tennessee BellSouth had a total of 85 Line Splitting lines in service, and a total of 1,759 Line Sharing lines in service. In the most unlikely event that all Line Sharing lines in service in Tennessee converted to Line Splitting, and then all Line Splitting converted to UNE-L, the maximum total potential number of lines would only be 1,844. This hypothetical total conversion of all shared loop lines in

Tennessee to Line Splitting via UNE-L, 1,844 is approximately 0.7% of all CLEC owned UNE-P and UNE loops in Tennessee.

Q. ON PAGE 36, MR. VAN DE WATER STATES “WHILE THERE IS NO TECHNICAL REASON THAT THE OUTPUT OF THE BELLSOUTH SPLITTER COULD NOT BE HOT CUT TO THE VOICE CLEC DIRECTLY FROM THE MDF, AS A MATTER OF POLICY, BELLSOUTH REFUSES TO DO IT.” PLEASE COMMENT.

A. What Mr. Van de Water notably fails to mention is that BellSouth is not obligated to provide a splitter by the TRO. Thus, while BellSouth welcomes requests from CLECs for new services provided at market based rates, there is no obligation by the TRO for BellSouth to continue to facilitate line splitting between CLECs and DLECs by providing splitter functionality, if enough CLECs or DLECs wished to purchase BellSouth’s splitter functionality at market base rates to facilitate combining voice and data services where an existing BellSouth offering is not already available, then BellSouth would be willing to pursue development of such an offering.

Q. ON PAGE 37, MR. VAN DE WATER STATES “THE ONLY PRACTICAL PROCESS AVAILABLE IN BELLSOUTH TERRITORY BY WHICH CLECS AND DLECS CAN IMPLEMENT UNE-L LINE SPLITTING TODAY IS THROUGH THE USE OF PRE-WIRED (DEDICATED) CAGE-TO-CAGE CABLING BETWEEN THEIR RESPECTIVE COLLOCATIONS TO

ENABLE INTERCONNECTION OF THE NECESSARY EQUIPMENT…" HE GOES ON TO EXPLAIN IN A FOOTNOTE THAT "CLECS COULD THEORETICALLY INSTALL NON-DEDICATED CAGE-TO-CAGE CABLING BETWEEN THEIR COLLOCATIONS, BUT THIS WOULD REQUIRE A DISPATCH TO EACH PARTY'S COLLOCATION CAGE TO IMPLEMENT EACH NEW VOICE/DSL CUSTOMER'S SERVICE." WHICH APPROACH IS ACTUALLY MORE FEASIBLE?

A. Dispatching on every DSL order is actually more feasible than providing dedicated cabling at the considerable expense Mr. Van de Water describes. BellSouth's current process for wiring DSL customers requires a dispatch to the remote terminal, or at the main distribution frame in the central office, for every new DSL order. Even at high DSL order volumes, this approach is more cost effective than wiring dedicated cabling between DSLAMs and voice switches. With the penetration rate of DSL service is less then 3.7% of voice lines in Tennessee, it does not make sense to utilize dedicated wiring for such a low take rate.

Q. ON PAGE 38, MR. VAN DE WATER DESCRIBES SUPPOSED OPERATIONAL CONCERNS ASSOCIATED WITH CAGE-TO-CAGE CROSS CONNECTS (AND THE ASSOCIATED CONNECTING FACILITY ASSIGNMENTS ("CFAs")) AND ROUTING OF THE CLEC'S VOICE PATH THROUGH A DLEC'S COLLOCATION SPACE. HOW SIMPLE ARE THE MITIGATING SOLUTIONS TO BOTH OF THESE 'CONCERNS'?

A. If the CLECs share the concerns that Mr. Van De Water has alluded to, then they have a relatively simple solution that they can employ to mitigate almost all of his concerns. Specifically, the voice CLEC could install and maintain their own splitters, and they could approach BellSouth to provide technician dispatches at market rates.

Q. HOW DOES HAVING THE VOICE CLEC PROVIDE ITS OWN SPLITTERS MITIGATE MANY OF THE CONCERNS THAT MR. VAN DE WATER RAISES?

A. By installing and maintaining its own splitter in the CLECs collocation cage, the CLEC's voice service will no longer pass through the DLEC's collocation cage. Since the DLEC is no longer in the voice path, they would not be required to troubleshoot voice service troubles with the CLEC and ILEC. In addition, the DLEC could pre-wire a number of DSLAM ports to the cables coming from the splitter, which would reduce dispatch costs, since only the CLEC would need to dispatch for wiring once a DSL order is received. This method would allow all other voice service wiring procedures to remain 'as is,' and would only require modifications for the relatively few customers that desire DSL service. For those dispatches that do remain, the CLECs could approach BellSouth to develop a market based agreement to provide dispatch services for the CLECs. Because BellSouth is the party most likely to have trained technicians located at or near the CLEC's collocation cage, a market based rate would likely save the CLECs considerable costs

associated with dispatching technicians to central offices.

Q. MR. VAN DE WATER DESCRIBES THE NEED FOR ADDITIONAL CFA ASSIGNMENTS IN ORDER TO BE ABLE TO CONNECT DLEC-PROVIDED DSL SERVICES WITH CLEC-PROVIDED VOICE SERVICES. HOW DIFFICULT IS KEEPING THE RECORDS BETWEEN THE DLEC AND CLEC?

A. Managing CFAs and other assignments is a core functionality of any telephone company. With the number of customer records, the complexity of managing facility assignments throughout the network, and interconnection agreements with ILECs, IXCs and others, managing customer and network records is critical to the ongoing business of any CLEC. The requirements for CLEC to DLEC CFAs is no less, or no more, complicated than any other type of record keeping, and the CLECs have no relative advantage, or disadvantage to BellSouth when it comes to keeping records.

Q. BASED ON THE MITIGATING ALTERNATIVES DESCRIBED ABOVE, HOW ACCURATE ARE THE 'COSTS' DESCRIBED BY MR. VAN DE WATER FOR USING A LINE SPLITTING ARRANGEMENT WITH CLEC PROVIDED SWITCHING?

A. As described above, dispatching technicians to 'recreate' the facility connections when adding a DLEC provided DSL service is the most

economically feasible alternative. Now that a technician is available to recreate the DSL connection, re-using the formerly voice only DLC port is a valid option. Therefore, 88% of the 'costs' described by Mr. Van De Water are no longer warranted.

Q. PLEASE EXPLAIN HOW CLECS AND DLECS CAN IMPROVE THIS PROCESS WITHOUT REQUIRING ANY INVOLVEMENT FROM BELLSOUTH.

A. CLECs could best serve themselves by strengthening the arrangements they have amongst themselves. As explained in this testimony, BellSouth is merely a facilitator of Line Splitting and not actually a directly involved party with the end-user. All of the necessary components for Line Splitting are currently available to CLECs. It must be noted that much of the necessary work when migrating to Line Splitting via UNE-L needs to be done by the CLEC. Accordingly, the CLEC has considerable control over the extent of down time the CLEC xDSL end user would experience. Just like BellSouth, CLECs need to develop the necessary new processes, test them, enhance them, and refine them to the point where they are operationally efficient in order to minimize end user down time.

Q. DO ANY OF THE ABOVE MENTIONED MIGRATION SCENARIOS REQUIRE USE OF AN ACCESS SERVICE REQUEST ("ASR")?

A. No, for all Line Splitting scenarios, and migrations to Line Splitting, CLECs

only need to use existing Local Service Request ("LSR") processes. ASRs are not needed for any currently available components needed for Line Splitting.

Q. ARE THERE ANY SCENARIOS WHERE PLACING MULTIPLE ORDERS ARE REQUIRED TO DO A SINGLE CONVERSION?

A. There are a few situations that may require two (2) LSRs be submitted. The first such situation would be where an end user is moving from one location to another. In order to establish a shared loop scenario (Line Sharing or Line Splitting via a UNE Loop, UNE Port and cross connects) the loop at the customers new address must first have dial tone established. Accordingly, this would require two orders, one for the voice service and a second to establish the loop sharing. However, these orders can be "related" and worked together. A second scenario would be where an end user desires to establish an additional line with xDSL at their location. As with the above, the voice service must be established first, and then the loop sharing may be established. Again, these orders can be "related" and worked together. The third such scenario would be where the end user currently does not have data and desires to change voice providers from BellSouth to a CLEC and add a shared loop. In this case, if the end user is changing any of the existing voice service (adding, deleting features, etc.) two orders would be necessary. As stated above however, any of the remaining types of migrations can be accomplished with a single LSR.

Q. WHAT EFFORTS HAVE BEEN MADE BY CLECS AND BELLSOUTH TO DEVELOP PROCESSES AND PROCEDURES FOR SHARED Loop CONVERSIONS?

A. Since the inception of Line Sharing and Line Splitting, BellSouth voluntarily established the BellSouth/CLEC Line Sharing/Line Splitting Collaborative. BellSouth developed its shared loop products (Line Sharing and Line Splitting) through a collaborative process with all interested CLECs. BellSouth invited CLECs to a collaborative meeting in Atlanta on January 26, 2000. Twelve CLECs participated in the meeting. The participants agreed to form several working teams to develop, test, and refine the procedures for pre-ordering, ordering, and provisioning the High Frequency Portion of the Loop ("HFPL") UNE so that CLECs and BellSouth could implement line sharing successfully. The first meeting of the working teams was held on February 2, 2000. The participants jointly decided to have two (2) sub-committees: a technical sub-committee and a systems/process sub-committee. Each sub-committee would meet one day each week. The technical sub-committee worked on technical issues, such as systems/network architecture and testing. The systems/process sub-committee focused on the pre-ordering, ordering, provisioning, maintenance, and billing issues associated with line sharing. Each sub-committee listed and prioritized issues and action items. The sub-committees addressed and resolved issues essential to the development of the architecture and operations plan for the line sharing product. Beginning April 12, 2000, the collaborative consolidated the two sub-

committees, and the full committee then conducted the collaborative meetings on one full day each week. Subsequently the Collaborative changed the meeting schedule to one half day, twice per month.

BellSouth also provides a web site for Line Sharing and Line Splitting information including meeting logistics, meeting minutes, process flow and procedures. The web site can be found at http://www.interconnection.bellsouth.com/markets/lec/line_sharing_collab/index.html

Q. WHO IS REPRESENTED IN THE BELLSOUTH / CLEC LINE SHARING AND LINE SPLITTING COLLABORATIVE?

A. Since its inception, the following are some of the companies providing representation and input to the Collaborative: Aircovr, Al-Call, AT&T, BellSouth, BlueStar, Covad, Duro Communications, MCI/WorldCom, MTA Consulting, Network Telephone, New Edge, NorthPoint, Rhythms, Sprint, Volaris, and WebShoppe.

Q. HAVE THE CLECS AND DLECS EXPRESSED ANY INTEREST IN THE VARIOUS HOT CUT SCENARIOS YOU HAVE DESCRIBED EARLIER?

A. Yes, just recently, but their interest has been very limited and generally only relates to a few specific situations. The first such expression of CLEC interest was raised during the September 18, 2003 BellSouth/CLEC

Line Sharing and Line Splitting Collaborative ("Collaborative"). A CLEC requested an agenda item to address BellSouth's plans to support Line Splitting OSS changes based on the recent TRO requirements. At the next Collaborative, this issue was listed on the Agenda as a discussion item as requested by the CLEC however, in accordance with Collaborative policy, because the requesting CLEC was not in attendance, the discussion was tabled until the next scheduled meeting. During the October 16, 2003 Collaborative meeting, the CLEC's issue was specifically identified as BellSouth's readiness to provide Line Splitting with CLEC voice via CLEC switch in an electronic ordering environment with seamless provisioning.

Q. ARE YOU SAYING THAT BELLSOUTH'S HOT CUT PROCESS ON LINE SHARING AND LINE SPLITTING IS A SIGNIFICANT CONCERN TO THE CLECS?

A. No, at least not according to their actions. The CLECs' have expressed interest in BellSouth developing various migration scenarios; however, all such migration scenarios discussed in the January 29, 2004 Collaborative are currently available. The CLECs' have not provided the priorities of additional development for migration scenarios that BellSouth does not already have available. Lack of prioritization for migration scenarios that are currently not available, in the appropriate forum for them to work with BellSouth to effectuate change indicates that hot cuts impact on xDSL service are not currently of significant concern to them.

Q. PLEASE EXPLAIN HOW BELLSOUTH DECIDES WHICH DLEC REQUESTS IT WILL WORK ON, AND WHEN?

A. Since the inception of Line Sharing and Line Splitting, BellSouth has continually solicited input, direction and prioritization from CLECs via the BellSouth/CLEC Line Sharing/Line Splitting Collaborative, of which AT&T, MCI/WorldCom, Sprint, Covad, and several others are members. Basically, BellSouth asks the CLECs to provide a prioritized list of the CLEC's requests for enhancements, changes, modifications, etc. to Line Sharing /Line Splitting. The listing is then presented to the Collaborative where the items and related prioritization is voted on and approved by the Collaborative. BellSouth then uses the consolidated and Collaborative approved prioritized listing of projects as guidance to determine the work activity of the BellSouth internal team for product development under manual ordering – electronic ordering follows the Change Control guidelines for prioritization & scheduling. The attached exhibit EF-3 shows the most current CLEC prioritization of Line Splitting migrations that have been completed by BellSouth.

Because of the recentness of the TRO and the lack of any significant quantity of Line Splitting sales (including migrations to Line Splitting) within the BellSouth region, the request for migrations and or hot-cuts to or from Line Splitting has just recently been received by BellSouth. As of the January 29, 2004 BellSouth/CLEC Line Sharing and Line Splitting Collaborative, the CLECs have not yet fully defined or developed any

requests not already available from BellSouth, let alone prioritized them. Once received from the CLECs, BellSouth will have the CLECs prioritize and then vote to approve the prioritization of the desired UNE-L migrations, including any hot cut scenarios.

Q. HAVE THE CLECS FORMALLY REQUESTED BELLSOUTH TO BEGIN WORK ON ESTABLISHING ANY ADDITIONAL PROCEDURES, ETC. FOR HOT CUTS OR MIGRATIONS TO UNE-L AS EXPLAINED ABOVE?

A. No. That is what is confusing. As previously mentioned, the CLECs are raising many of these issues to the Authority but have yet to provide BellSouth with a prioritized listing of what they are desiring that isn't already available from BellSouth.

Q. ON PAGE 41 OF HIS TESTIMONY, MR. BRADBURY STATES "ADDITIONALLY, EXCEPT WHEN THE IDLC CUSTOMER CAN BE PLACED ON A COPPER LOOP LESS THEN 18,000 FEET IN LENGTH CLECS ARE DENIED THE CAPABILITY TO PROVIDE DSL SERVICE TO THEIR CUSTOMERS." PLEASE EXPLAIN WHAT CAPABILITIES CLECS HAVE TO CONTINUE TO PROVIDE BROADBAND SERVICES TO THEIR END USERS.

A. CLECs have numerous options available for serving the broadband needs of their end-user customers in cases other then where IDLC customers can be placed on a copper loop less then 18,000 feet. Specifically, any

CLEC can: (1) place its own DSLAM at the DLC remote terminal as BellSouth does in such a situation, (2) provision the end-user customer with Integrated Services Digital Network ("ISDN") Digital Subscriber Line ("IDSL") service, (3) Provide the customer with a dedicated T1 connection, (4) partner with a cable broadband provider to provide cable modem broadband service, (5) purchase BellSouth's tariffed wholesale DSL offering, (6) deploy a fixed wireless broadband technology, and (7) partner with a satellite broadband provider.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. As becomes readily apparent from the above testimony, BellSouth already has in place the needed processes to handle all known CLEC requested migration scenarios. In particular, if the CLEC owns the splitter, as it is obligated to do under the TRO, the CLEC can cut a loop from the BellSouth switch port to a CLEC switch port using its own processes without interruption to the DSL service. In addition, BellSouth has demonstrated that CLECs are not harmed in any way with a conversion of Line Splitting via UNE Loop, UNE Port and cross connects to a UNE-L. In addition to the requirements, BellSouth has, is, and will continue to voluntarily provide various items at market based rates to assist the CLEC community with better serving their end user customers. Additionally, BellSouth has had a long-standing forum for CLECs to bring their new ideas, needs and requests to the attention of BellSouth, the BellSouth/CLEC Line Sharing and Line Splitting Collaborative. Through

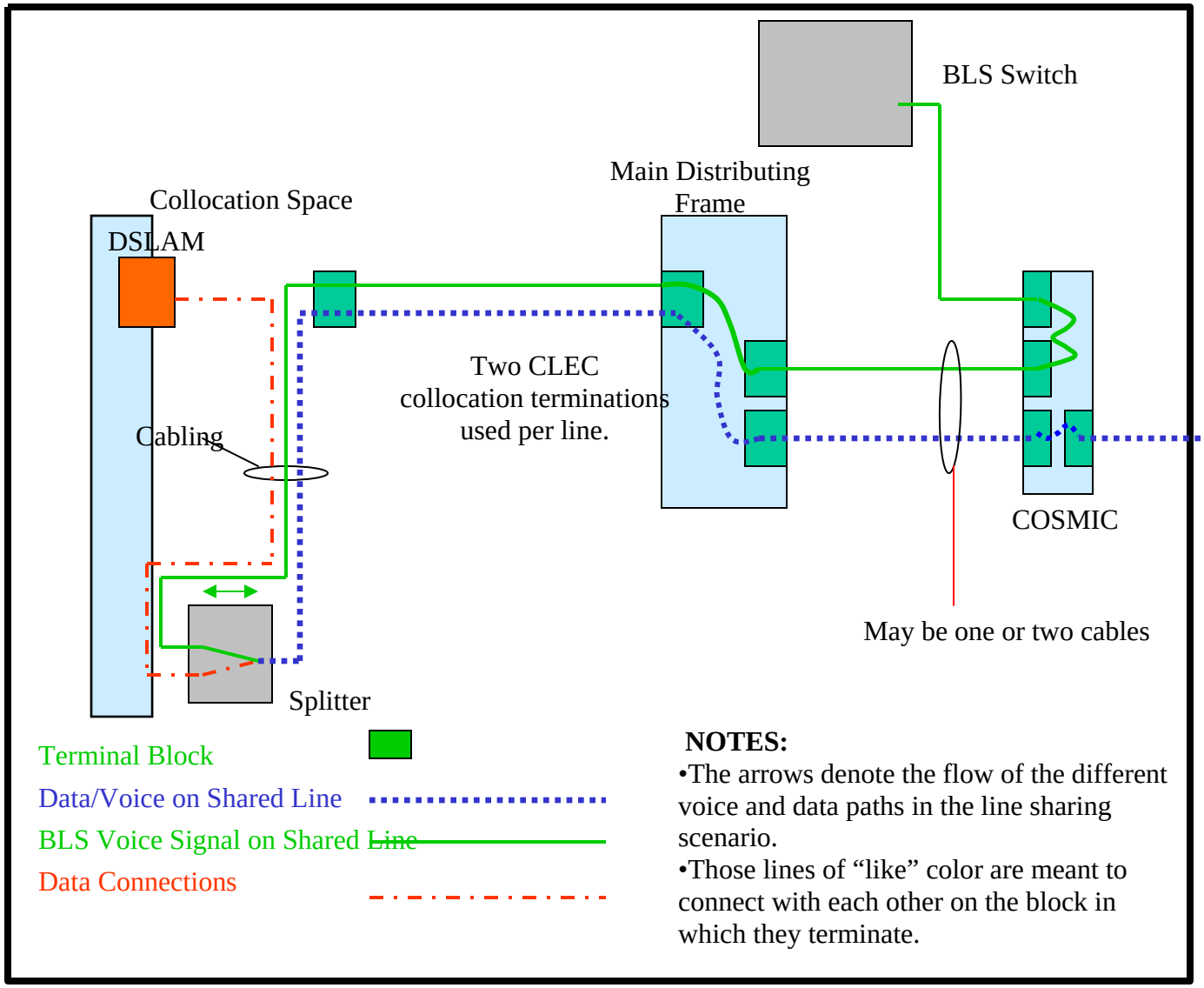
this Collaborative not only are the CLECs able to assist with the development of the various offerings, enhancements, etc., they additionally have significant input into the prioritization of the BellSouth work effort. As of the last Collaborative meeting, January 29, 2004, the CLECs had not yet formulated their requests for any conversion scenarios to or from Line Splitting that are not already available from BellSouth. BellSouth has continually demonstrated that it is diligent, prompt and attentive to the requests of the CLECs, and is committed to remain so. To that end, even though BellSouth stands ready and waiting, CLECs have not provided any additional detailed process requests, nor prioritized any additional BellSouth work efforts to help facilitate xDSL migrations with UNE-P to UNE-L or subsequent migrations not already available from BellSouth, even though the collaborative meetings with BellSouth has given them ample opportunity to do so.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. Thank you.

CO-Based Line Splitting

Exhibit EF-1

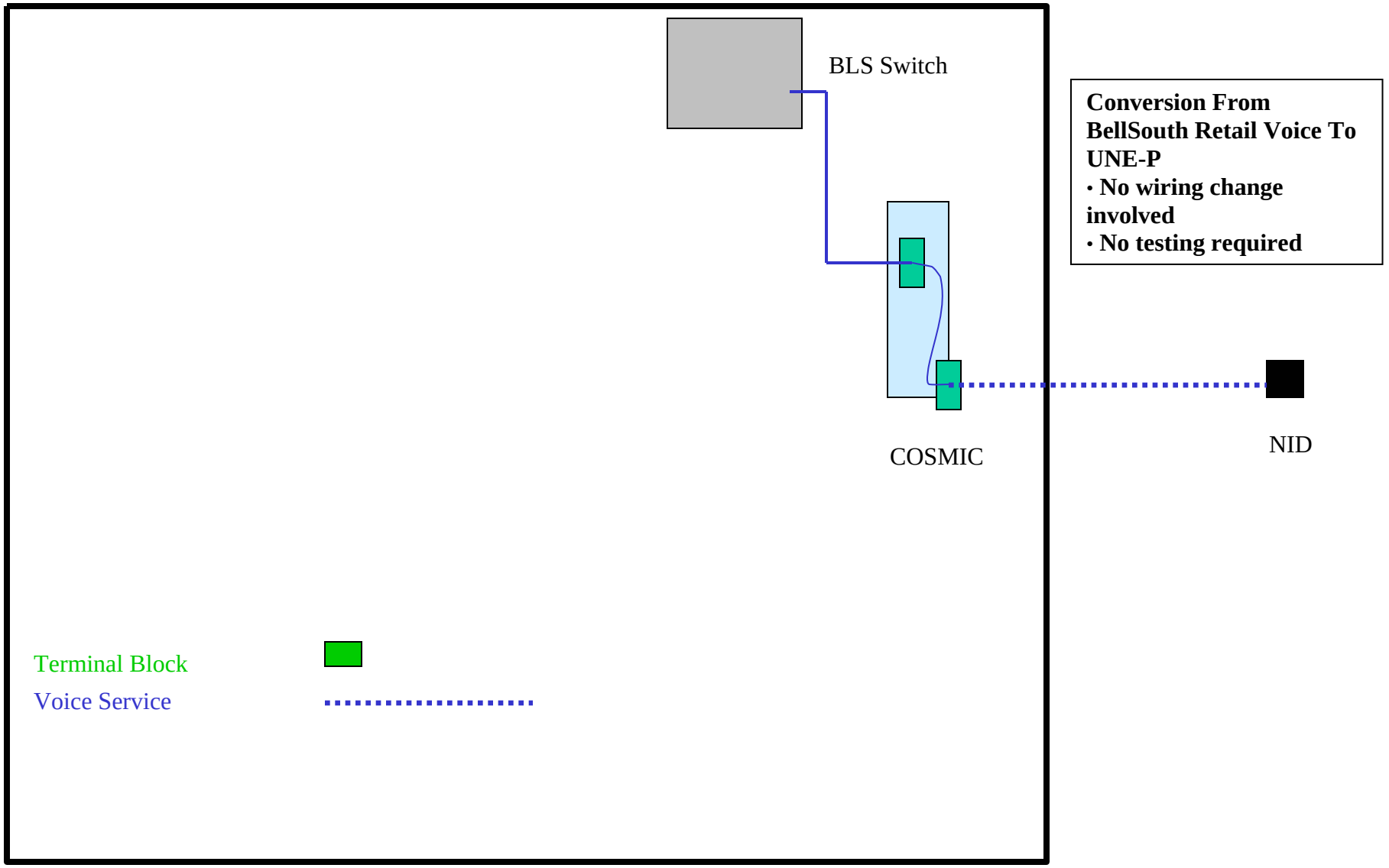


Conversion From UNE-P To Line Splitting

- **Remove 1 Cross-Connection**
- **Make 4 new Cross-Connections**
- **Test voice and data**

CLEC Voice on BST UNE-P

Exhibit EF-2



Conversion From BellSouth Retail Voice To UNE-P

- **No wiring change involved**
- **No testing required**

LINE SPLITTING MIGRATION OPTIONS DELIVERED TO DATE

Ref	Change		Voice Provider		Data Provider		CO Work	1st Right	DLEC	Collaborative	Phase
Num	From Existing Service	To New Service	Change	Same	Change	Same	RQD	Of Refusal	Notification	Priority	Delivered
1	CO HFS – BST owned	Line Splitting – BST owned	X			X	No	No	No	3	2
2	CO HFS – BST owned	Line Splitting – BST owned	X		X			No	Yes	4	2
3	CO HFS – BST owned	Line Splitting – DLEC owned	X			X		No	No	3	2
4	CO HFS – BST owned	Line Splitting – DLEC owned	X		X			No	Yes	4	2
5	CO HFS – DLEC owned	Line Splitting – BST owned	X			X		No	No	3	2
6	CO HFS – DLEC owned	Line Splitting – BST owned	X		X			No	Yes	4	2
7	CO HFS – DLEC owned	Line Splitting – DLEC owned	X			X	No	No	No	3	2
8	CO HFS – DLEC owned	Line Splitting – DLEC owned	X		X			No	Yes	4	2
23	UNE-P	Line Splitting – BST owned		X	New	New		No	No	1	2
25	UNE-P	Line Splitting – DLEC owned		X	New	New		No	No	Avail 6/19/01	1
27	BellSouth Retail	Line Splitting – BST owned	X		New	New		No	No	2	2
28	BellSouth Retail	Line Splitting – DLEC owned	X		New	New		No	No	2	2
17	Line Splitting – DLEC owned	Line Splitting - BST owned	X		X			No	N/A	10	3
19	Line Splitting – DLEC owned	Line Splitting - BST owned		X	X			No	N/A	10	3
20	Line Splitting – DLEC owned	Line Splitting – DLEC owned	X			X	No	No	N/A	11	3
21	Line Splitting – DLEC owned	Line Splitting – DLEC owned	X		X			No	N/A	11	3
22	Line Splitting – DLEC owned	Line Splitting – DLEC owned		X	X			No	N/A	11	3
24	UNE-P	Line Splitting – BST owned	X		New	New		No	No	8	3
26	UNE-P	Line Splitting – DLEC owned	X		New	New		No	No	8	3
33	Resale	Line Splitting – BST owned		X	New	New		No	No	7	3
34	Resale	Line Splitting – DLEC owned		X	New	New		No	No	7	3
35	Resale	Line Splitting – BST owned	X		New	New		No	No	7	3
36	Resale	Line Splitting – DLEC owned	X		New	New		No	No	7	3

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF KATHY K. BLAKE

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

FEBRUARY 27, 2004

Q. PLEASE STATE YOUR NAME, YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH") AND YOUR BUSINESS ADDRESS.

A. My name is Kathy K. Blake. I am employed by BellSouth as Director – Policy Implementation for the nine-state BellSouth region. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. Yes, I filed direct testimony and three exhibits on January 16, 2004.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My rebuttal testimony addresses numerous comments contained in the direct testimony filed by other witnesses in this proceeding on January 16, 2004. Specifically, I address portions of the testimony of Mr. Joseph Gillan representing CompSouth, Dr. Mark T. Bryant and Mr. James D. Webber representing MCIMetro Access Transmission Services, LLC and Brooks Fiber

Communications of Tennessee, Inc. ("MCI") and Dr. Steve Brown, representing the Consumer Advocate and Protection Division ("CAPD") of the Office of the Attorney General. Several witnesses included in their direct testimony in this docket discussion of Hot Cut issues, specifically, Dr. James D. Webber and Ms. Sherry Lichtenberg representing MCI, and Mr. Steven E. Turner and Mr. Mark D. Van de Water, representing AT&T Communications of the South Central States, LLC ("AT&T"). The Hot Cut issues are being addressed in a separate docket, Docket No. 03-00526, and BellSouth will respond to those portions of the other parties' testimonies in that docket.

THE ROLE OF THE TENNESSEE REGULATORY AUTHORITY ("TRA" OR "AUTHORITY")

Q. AT PAGES 7-9 OF HIS TESTIMONY, MR. GILLAN IMPLIES THAT TENNESSEE STATUTE 65-4-123,124 REQUIRES THAT BELLSOUTH UNBUNDLE EVERY PART OF ITS LOCAL NETWORK, REGARDLESS OF THE REQUIREMENTS OF THE TELECOMMUNICATIONS ACT OF 1996 (THE "ACT"). HE STATES THAT THE ONLY REASON HE IS NOT RECOMMENDING THAT THE AUTHORITY "INDEPENDENTLY ORDER THE ILECS TO OFFER UNBUNDLED LOCAL SWITCHING UNDER STATE LAW" IS BECAUSE "SUCH ACTION IS UNNECESSARY" DUE TO THE FCC'S NATIONAL FINDING ON MASS MARKET SWITCHING. PLEASE RESPOND.

A. There is no question that the Tennessee Legislature passed landmark legislation, opening the local exchange markets in Tennessee to competition. However, Section 251(d)(2) puts limits on a state's ability to make determinations about unbundling that are inconsistent with those made by the Federal Communications Commission ("FCC"). Mr. Gillan's testimony is flatly contrary to the FCC's discussion of state authority in the *Triennial Review Order ("TRO"):*[1]

> [W]e find that the most reasonable interpretation of Congress' intent in enacting sections 251 and 252 to be that state action, whether taken in the course of a rulemaking or during the review of an interconnection agreement, must be consistent with section 251 and must not "substantially prevent" its implementation…If a decision pursuant to state law were to require the unbundling of a network element for which the Commission has either found no impairment – and thus has found that unbundling that element would conflict with the limits in section 251(d)(2) – or otherwise declined to require unbundling on a national basis, we believe it unlikely that such decision would fail to conflict with and "substantially prevent" implementation of the federal regime, in violation of section 251(d)(3)(C). Similarly, we recognize that in at least some instances existing state requirements will not be consistent with our new framework and may frustrate its implementation. It

[1] *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, et al.*, CC Docket No. 01-338, et al., *Report and Order and Order on Remand an Further Notice of Proposed Rulemaking*, FCC 03-36, released August 21, 2003.

> will be necessary in those instances for the subject states to amend their rules and to alter their decisions to conform to our rules. (*TRO* ¶¶ 194-195).

There is no question that the FCC's framework for finding market-by-market non-impairment for mass-market switching is an integral part of the federal regime and any state decision regarding the local circuit switching impairment issue must be consistent with that federal regime. Despite Mr. Gillan's arguments, the plain language of the *TRO* shows the error in his approach.

Q. AT PAGE 15, IN DISCUSSING THE TASKS ASSIGNED TO STATE COMMISSIONS BY THE FCC, MR. GILLAN SUGGESTS THAT THE AUTHORITY'S ROLE IS TO SIMPLY "CONFIRM THAT THERE ARE NO EXCEPTIONS TO" THE FCC'S NATIONAL FINDING OF IMPAIRMENT WITH RESPECT TO MASS MARKET SWITCHING. PLEASE COMMENT.

A. Mr. Gillan's suggestion is misguided. While the FCC did make a national finding that competitive local exchange carriers ("CLECs") are impaired without access to mass market switching on an unbundled basis, the FCC did not simply ask the states to confirm that there are no exceptions. To the contrary, in footnote 1404 of the Triennial Review Order ("*TRO*"),[2] the FCC specifically stated that their

[2] *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, et al.,* CC Docket No. 01-338, et al., *Report and Order and Order on Remand an Further Notice of Proposed Rulemaking*, FCC 03-36, released August 21, 2003.

intent was to "make a national finding based on a more granular inquiry". In the *TRO*, the FCC determined that this granular inquiry would be most appropriately conducted by the state commissions. Further, in paragraph 461 of the *TRO*, the FCC stated,

> We also recognize that a more granular analysis may reveal that a particular market is not subject to impairment in the absence of unbundled local circuit switching. We therefore set forth two triggers that state commissions ***must*** apply in determining whether requesting carriers are impaired in a given market. Our triggers are based on our conclusion that actual deployment is the best indicator of whether there is impairment, and accordingly evidence of actual deployment is given substantial weight in our impairment analysis. (Emphasis added.)

The FCC's intent that the states conduct a granular analysis of markets within the state is a far cry from Mr. Gillan's interpretation, which is much akin to simply "seconding a motion from the chair".

Q. AT PAGE 71, MR. GILLAN RECOMMENDS THE AUTHORITY OPEN YET ANOTHER PROCEEDING TO ESTABLISH A MARKET RATE FOR NETWORK ELEMENTS NO LONGER SUBJECT TO SECTION 251 PRICING STANDARDS. IS THIS APPROPRIATE?

A. No. Mr. Gillan's recommendation misses the mark. When an ILEC has been relieved of its obligation to offer a network element under Section 251 of the Act,

such as local circuit switching, it means that CLECs are no longer impaired without access to that network element. Under a finding of no impairment, there are sufficient alternatives in the market such that CLECs do not need to rely on ILEC services at regulated prices. Because CLECs have alternatives, competition will drive the market price of the network element. As such, it is appropriate for BellSouth to set its rate according to those market conditions through negotiations with the CLEC. It is neither necessary nor appropriate for this market rate to be set by this TRA proceeding, and it has no authority to do so. Mr. Gillan's suggestion should therefore be rejected.

Q. MR. GILLAN RECOMMENDS A TWO-YEAR QUIET PERIOD FOLLOWING THIS PROCEEDING, IN WHICH THE ILECS MAY NOT SEEK FURTHER UNBUNDLING RELIEF (PAGE 72). IS THIS APPROPRIATE?

A. Absolutely not. Under the guise of "providing certainty to the industry", Mr. Gillan is merely attempting another strategy designed to extend the unbundled network element platform ("UNE-P") as long as possible. Although it may be appropriate to set some basic guidelines for subsequent proceedings, it should be for the purpose of acknowledging and furthering competition rather than in protecting UNE-P. Two years in this business is a very long time and much can happen. Delaying an ILEC's ability to obtain further relief from its unbundling obligations due to an arbitrary "quiet period" is unfair to the ILEC and does not recognize the dynamics of the marketplace.

Further, with respect to those markets where CLECs continue to be impaired without access to unbundled switching, Dr. Bryant states, "If CLECs are not impaired without access to UNE switching, I would expect more CLECs to self-provision switching in the relatively near future." (Bryant, p. 21) Dr. Bryant's statement will not always be right for the simple reason that TELRIC priced switching by the incumbent will often keep CLECs from deploying their own switches, even where the CLEC would not be impaired without unbundled switching. However, in some cases CLECs will deploy their own switches in the future. When that activity occurs or other evidence of no impairment surfaces, BellSouth should have the option to immediately petition for relief in that market.

COMPETITION AND UNE-P

Q. MR. GILLAN DISCUSSES WHAT HE CALLS THE "COMPETITIVE PROFILE" IN TENNESSEE (PAGES 28-34) CONCLUDING THAT UNE-P PRODUCES STATEWIDE COMPETITION. FROM HIS ASSESSMENT, MR. GILLAN STATES THAT THE AUTHORITY "SHOULD NOT RESTRICT THE AVAILABILITY OF UNBUNDLED LOCAL SWITCHING AND UNE-P UNLESS IT CAN CONCLUDE THAT AN ALTERNATIVE WILL PRODUCE A SIMILAR COMPETITIVE PROFILE." DO YOU AGREE?

A. No, I do not. First, Mr. Gillan appears to suggest that the entire state of Tennessee should be the market area, because he says the UNE-P produces statewide competition and any alternative should do the same. As the FCC was specific in pointing out, "State commissions have discretion to determine the

contours of each market, but they may not define the market as encompassing the entire state." (*TRO* ¶ 495).

Second, there is no reference in the *TRO* that places a requirement upon the Authority to ensure that a statewide alternative to UNE-P is in place before the Authority can find no impairment in a particular market. Indeed, such a requirement would make no sense given the fact UNE-P itself will remain in place in those markets where relief is not granted.

However, there most definitely is a requirement that the Authority determine that CLECs are not impaired in a market when either the self-provisioning or wholesale triggers are met or the market is found to be conducive to competitive entry. This analysis is done on a market-by-market basis, as BellSouth has done in establishing the 24 distinct geographic markets in its territory in Tennessee.

Finally, it is not surprising at all that UNE-P produces some level of competition in most wire centers in the state of Tennessee. After all, UNE-P is nothing more than the incumbent LEC's local service offering at below-cost prices. BellSouth will only receive switching relief where competitive alternatives exist or could exist. Thus, competition will continue after BellSouth gets switching relief. The difference will be that the competition that flourishes after relief is granted will be healthy facility-based competition rather than pseudo resale competition.

Q. TWO PARTIES ALLEGE THAT COMPETITION IN TENNESSEE DEPENDS ON THE AVAILABILITY OF THE UNBUNDLED NETWORK ELEMENT PLATFORM OR UNE-P. DO YOU AGREE?

A. No. There seems to be a theme that runs through the testimony of witnesses Gillan (pp. 61-62) and Bryant (pp. 15-16), that is based on the mistaken notion that CLECs cannot compete in Tennessee without UNE-P.

These witnesses are incorrect. First, the *TRO* requires that either a provisioning trigger be met or potential competition be shown before a state commission can find that no impairment exists for local switching. Second, the Act envisioned provisioning of local exchange competition by three means; resale of the incumbent's retail services, purchase of unbundled network elements ("UNEs"), and interconnection via a CLEC's own facilities. All three options, or combination of options, are available to CLECs. CLECs are certainly not limited to UNE-P as an entry method.

In the markets where the state commission finds CLECs are not impaired without unbundled switching, the CLEC has the means to supply its own switching or can use BellSouth's local circuit switching at market prices. BellSouth must continue to provide local switching to CLECs under Section 271(c)(2)(B) of the Act. Therefore, and as I discussed above, BellSouth will offer local switching at a competitive market rate in those markets where the Authority determines that CLECs are not impaired. In addition, there will be a transitional period sufficient to allow CLECs to implement their chosen options (e.g., *TRO* ¶ 532 describes

how, even after a finding of no-impairment in a particular market, UNE-P will not be phased out for a subsequent 27 months). Therefore, contrary to Dr. Bryant's statement, all consumers currently served by UNE-P CLECs will not be forced to make a change in their telephone service. Indeed, any switching relief provided to BellSouth should be transparent to the end user consumer.

Finally, although at this time BellSouth has not attempted to demonstrate the presence of wholesale switch providers in this case, it is reasonable to expect that in markets where no impairment is found, wholesale switching will become more prevalent as an option for CLECs. Once the subsidized switching that BellSouth is currently required to offer is eliminated and BellSouth provides switching at market-based rates, switch providers will likely find that wholesale switching offers a viable and long-term market where they can compete effectively.

In summary, the parties that attempt to minimize CLEC opportunity in the absence of unbundled local switching are doing so only to preserve the below-cost prices they currently pay for the UNE-P. They give little credence to the options available to them including the multiple sources of switching, and BellSouth's local switching at market rates.

Q. ON PAGES 63-65 MR. GILLAN SUGGESTS THAT UNE-P ENCOURAGES INVESTMENT. DO YOU AGREE?

A. Absolutely not. The use of UNE-P, if anything, discourages investment in facilities for both CLECs and ILECs. UNE-P is basically the resale of an ILEC's

services. While Mr. Gillan claims that CLECs invest in "billing systems, computer systems, offices and, perhaps most importantly, human capital", such investment is minimal compared to the investment associated with true facilities-based competition. Furthermore, the investment claimed by Mr. Gillan can be easily terminated if business plans change. The FCC has recognized that a CLEC who invests in facilities, i.e. collocation space, transport facilities, etc., has made a commitment to provide service in a particular market by investing in network infrastructure. In its *Pricing Flexibility Order,*[3] in discussing the necessary competitive showing test for common line and traffic-sensitive services, the FCC states,

> "resold services employ only incumbent LEC facilities and thus do not indicate irreversible investment by competitors whatsoever. Similarly, a competitor providing service solely over unbundled network elements leased from the incumbent (the so-called "UNE-platform") has little, if any, sunk investment in facilities used to compete with the incumbent LEC." (*Pricing Flexibility Order* ¶ 111).

Thus, the lack of sunk investment affords a CLEC greater opportunity to exit a market rather than a commitment to provide service to its customers.

[3] *In the Matter of Access Charge Reform (*CC Docket No. 96-262*), Price Cap Performance Review for Local Exchange Carriers* (CC Docket No. 94-1), *Interexchange Carrier Purchases of Switched Access Services Offered by Competitive Local Exchange Carriers* (CCB/CPD File No. 98-63), *and Petition of U S West Communications, Inc. for Forbearance from Regulation as a Dominant Carrier in the Phoenix, Arizona MSA* (CC Docket No. 98-157), Fifth Report and Order and Further Notice of Proposed Rulemaking, FCC 99-206, Rel. August 27, 1999.

Mr. Gillan also suggests that UNE-P provides the capability for data LECs to continue to have access to end users. His argument for encouraging investment with this example is not clear. He states that with the elimination of the line sharing requirement, a data LEC will be required to either purchase the entire loop to provide service to its customer or to enter into a line splitting arrangement with a "voice partner". (Gillan, p. 64) Neither of these situations encourages investment. In both situations, the data LEC is still purchasing a stand-alone UNE loop that uses BellSouth's existing network facilities. In markets where there is no switching impairment, the only change is that switching is no longer available at TELRIC-based rates and the data LEC or its "voice partner" purchases an unbundled network element-loop ("UNE-L"). There is no new investment by a data LEC.

Q. IS MR. GILLAN CONSISTENT WITH HIS ARGUMENTS ABOUT UNE-P ENCOURAGING INVESTMENT?

A. No. Mr. Gillan's testimony appears to be inconsistent with his claim that UNE-P encourages investment. On page 64, Mr. Gillan states "The POTS market is shrinking as customers choose (for themselves, and not under regulatory direction) to move to more advanced services. There is no valid policy reason to encourage additional investment in the generic local exchange facilities that underlie UNE-P." By Mr. Gillan's own admission, UNE-P has not encouraged investment, at least in the POTS market.

Furthermore, contrary to Mr. Gillan's position, UNE-P does nothing to advance the development of new technologies. It is not UNE-P providers who introduce new technologies, but rather that carriers with control over their own switch that decide what software and hardware to install in order to customize their various offerings. This is demonstrated by the testimony of Jake E. Jennings of NewSouth, filed in Florida Docket No. 030852:

> "NewSouth [a facilities-based carrier with voice and data switches in Florida] is able to attract customers because, through the facilities it has deployed, it can offer customers a value proposition that exceeds what they currently receive from the incumbent. This value proposition involves not only better prices, but also more and varied services, including advanced services."[4]

In such cases, CLECs may find new technologies that offer services ILECs are not offering. Such enhancements to their switches will drive competition and innovation among competitors and will lead to a market driven by new offerings based on new technologies. That is not the case with UNE-P.

GEOGRAPHICAL MARKET DEFINITION

Q. PLEASE DISCUSS MCI'S DEFINITION REGARDING THE APPROPRIATE GEOGRAPHIC MARKETS FOR MASS MARKET SWITCHING.

[4] Florida Docket No. 030852, TRO Loop/Transport, Revised Direct Testimony of Jake E. Jennings, p. 9, lines 14-18.

The problems with the market definition proposed by MCI are discussed further in the rebuttal testimony of Dr. Pleatsikas. Let me note, however, that what at first blush appears to be a definition of geographic markets is, in reality, a design by MCI to secure the continuation of UNE-P indefinitely. MCI recommends that markets be defined as wire centers. (Bryant, pp. 44-49) Under this approach, MCI simply hopes to limit the loss of UNE-P to the greatest extent possible. MCI expects that BellSouth may be relieved of its UNE switching obligation in some wire centers, but hopes to confine the "damage to UNE-P" to relatively small pockets. MCI's approach to defining the geographic market is consistent with its strategy to limit the amount of switching relief granted to BellSouth so MCI can continue using UNE-P to the maximum extent possible. However, MCI's approach is not consistent with the *TRO*.

Q. PLEASE FURTHER ADDRESS MCI'S CHOICE OF THE WIRE CENTER AS THE CORRECT DEFINITION OF GEOGRAPHIC MARKET IN THIS PROCEEDING.

A. MCI's position is inconsistent with testimony filed by its own witnesses in previous proceedings. Here, Dr. Bryant touts the wire center as the appropriate market definition, stating at pages 29-30, "ILEC wire center boundaries are the most natural geographic boundaries for purposes of defining markets for several reasons." In contrast, in testimony filed in previous arbitration cases, MCI discounts the geographic area of an ILEC's wire center when compared to the

more updated CLEC networks. Specifically, in Georgia Docket No. 11901-U, Mr. Ron Martinez compared BellSouth's network to MCI's network:

> ILEC networks, developed over many decades, employ an architecture characterized by a large number of switches within a hierarchical system, with relatively short copper based subscriber loops. By contrast, WorldCom's local network employs state-of-the-art equipment and design principles based on the technology available today, particularly optical fiber rings utilizing SONET transmission. In general, using this transmission based architecture, it is possible for *WorldCom to access a much larger geographic area from a single switch* than does the ILEC switch in the traditional copper based architecture. This is why, in any given service territory, WorldCom has deployed fewer switches than the ILEC. *Any CLEC will begin serving a metropolitan area with a single switch and grow to multiple switches as its customer base grows*.
>
> In general, at least for now, WorldCom's switches serve rate centers at least equal in size to the serving area of the ILEC tandem. WorldCom is able to serve such large geographic areas via fiber network and bears the cost of transport of that owned network. (Emphasis added.) (Direct Testimony, pp. 35-36.)

MCI's own testimony establishes that a geographic market as defined by the boundaries of a decades old ILEC wire center is meaningless because MCI

reaches well beyond the wire center to serve its market. By its own admission MCI does not use the wire center to identify the customers it targets. Rather, it uses a number of other factors and appears to be limited in its market reach only as a function of its fiber network.

Q. WHAT GUIDANCE DID THE FCC PROVIDE IN DETERMINING GEOGRAPHIC MARKETS?

A. Paragraph 495 of the *TRO* gives guidance to state commissions in designing geographic markets. State commissions must consider locations of customers actually being served, variation in factors affecting the competitors' ability to serve groups of customers, and the ability to target and serve specific markets economically and efficiently using currently available technology. However, the FCC was also specific in pointing out:

> While a more granular analysis is generally preferable, states should not define the market so narrowly that a competitor serving that market alone would not be able to take advantage of available scale and scope economies from serving a wider market. State commissions should consider how competitors' ability to use self-provisioned switches or switches provided by a third-party wholesaler to serve various groups of customers varies geographically and should attempt to distinguish among markets where different findings of impairment are likely. The state commission must use the same market definitions for all of its analysis. (Footnotes omitted)

The fact that the FCC was concerned that the geographic area not be defined as the entire state indicates its belief that market areas would be something substantially larger than the ILECs' wire centers. BellSouth's proposal to use the individual UNE rate zones adopted by the Authority, subdivided into smaller areas using the Component Economic Areas ("CEAs") as developed by the Bureau of Economic Analysis of the United States Department of Commerce represents a more appropriate definition of geographic markets. UNE rate zones are an appropriate starting point for the market definition because, by design, they reflect the locations of customers currently being served by CLECs. CEAs are defined by natural geographic aggregations of economic activity and cover the entire state of Tennessee. BellSouth recommends the Authority adopt its definition of geographic markets and reject MCI's proposed definition of geographic markets.

SWITCHING TRIGGERS

Q. IN DISCUSSING WHAT CRITERIA HE RECOMMENDS THE AUTHORITY APPLY WHEN IDENTIFYING SELF-PROVISIONING TRIGGER CANDIDATES, MR. GILLAN STATES THAT THE AUTHORITY SHOULD EXCLUDE CANDIDATES THAT DO NOT RELY ON ILEC ANALOG LOOPS (PAGES 37-38 & 48-51). PLEASE ADDRESS THIS COMMENT.

A. Mr. Gillan states that "Self-Providers Must Be Relying on ILEC Loops" (page 48) in order for them to be included as candidates that meet the self-provisioning trigger. This is clearly inconsistent with the *TRO* – as footnote 1560 explains:

> We recognize that when one or more of the three competitive providers is also self-deploying its own local loops, this evidence may bear less heavily on the ability to use a self-deployed switch as a means of accessing the incumbent's loops. Nevertheless, the presence of three competitors in a market using self-provisioned switching and loops, shows the feasibility of an entrant serving the mass market with its own facilities.

Although Mr. Gillan would have the Authority exclude carriers that do not rely upon BellSouth's local loop facilities to provide service to their customers, the *TRO* clearly states otherwise. Accordingly, the Authority can, and should consider a carrier that provides its own switching as a trigger candidate, even if the carrier self-provisions its own loops as well.

Q. MR. GILLAN RECOMMENDS THAT A "*DE MINIMUS*" [SIC] CRITERION BE ADDED BY THE STATE COMMISSIONS TO THE TRIGGERS TEST (PAGES 52-55). IS THIS RECOMMENDATION CONSISTENT WITH THE REQUIREMENTS OF THE *TRO*?

A. No. The *TRO* does not establish any size requirements or specific quantitative standard regarding the number of customers in a market that must be served before a self-provisioning carrier can be "counted" for purposes of the triggers

test. Any imposition of a *de minimis* requirement regarding the number of customers served would be completely outside the explicit dictates of the *TRO*.

Q. WHY DO THE PARAGRAPHS CITED BY MR. GILLAN NOT SUPPORT A REQUIREMENT THAT A TRIGGER CANDIDATE PASS A *DE MINIMIS* TEST?

A. The only support that Mr. Gillan provides for his assertion that there should be a quantitative analysis is language in a section of the *TRO* (¶ 438) that appears well before the section that establishes the triggers test (¶¶ 498 – 505). Paragraph 438 of the *TRO* addresses the finding of *national* impairment and merely indicates that the FCC found *in aggregate* that the evidence in the record regarding the *overall* level of switch deployment was insufficient to warrant a finding in the *TRO* that CLECs are not impaired on a national basis. By contrast, the triggers tests, which are described some forty pages later in the *TRO*, posit a set of bright-line rules that, if met, overcome this presumption of national impairment. The discussion in paragraph 438 of the *TRO* is neither a part of the triggers tests nor is it logically linked to the tests.

Q. ARE THERE REASONS TO BELIEVE THAT THE FCC INTENDED TO ESTABLISH A *DE MINIMIS* STANDARD AS A PART OF ITS TRIGGERS TESTS?

A. No. At one point in his testimony, Mr. Gillan argues that the *TRO* requires state commissions to apply "judgment, experience, and knowledge of local competitive

conditions" to implement the triggers test, but he is simply grasping at straws. (Gillan, p. 55) In fact, the *TRO* is clear that it wishes to *remove* as many subjective elements as possible from the triggers test, and that is why the test is defined so objectively. (*TRO* ¶ 428, ¶ 498). The FCC was clear to spell out a number of criteria that it *did* intend for the state commissions to apply (e.g., the number of carriers required to demonstrate "multiple, competitive supply", *TRO* ¶ 501). If the FCC had intended state commissions to assess the "size" of carriers or their operations, it surely would have explicitly said so – just as it has done in countless other instances where it has established such bright line tests. Indeed, after describing in paragraph 499 the factors that are to be considered by the state commissions, the *TRO* explicitly indicates that "[f]or purposes of these triggers, we find that states shall not evaluate any *other* factors…" (*TRO* ¶500, emphasis added).

Q. ARE THERE ADDITIONAL REASONS THAT MR. GILLAN'S PROPOSED *DE MINIMIS* SIZE REQUIREMENT IS INCONSISTENT WITH THE FCC'S TRIGGERS TEST?

A. Yes. Apart from the FCC's desire for administrative simplicity and to avoid interpretive ambiguity, the triggers test is designed to reflect the presence of facilities-based competition. However, as Chairman Powell notes in his separate statement, there is significant evidence that the availability of TELRIC-priced, wholesale switching deters facilities-based competitors. (Separate Statement of Chairman Michael Powell at p. 6). Consequently, creating a minimum penetration standard would virtually ensure that the non-impairment tests would

never be met, because the availability of UNE-P would itself deter the level of penetration required for a finding of non-impairment. This may explain why Mr. Gillan proposes the addition of a *de minimis* size requirement in the first place.

Q. DOES DR. BRYANT PROPOSE A "*DE MINIMIS*" TEST?

A. Yes. In response to BellSouth's Florida interrogatory 3-119 (Docket 030850-TP) on this topic, Dr. Bryant admits that he proposes such a test and cites to paragraph 499 of the *TRO*. In that response, Dr. Bryant specifically points to the FCC's statement that ". . . the identified competitive switch providers should be actively providing voice service to mass market customers in the market" as implying "that some determination be made regarding the number of customers being served."

Q. PLEASE COMMENT ON DR. BRYANT'S INTERPRETATION OF THE *TRO*.

A. Dr. Bryant's proposal simply is not supported by the FCC's statement. There is no mention in that statement of customer counts, hurdles, market shares or any other quantitative indicator of "active" provision of service. The FCC is perfectly capable of imposing such quantitative requirements, but it did not. Indeed, a further reading of that general section of the *TRO* shows that the FCC proposes a *qualitative* indicator of "active" provision of service rather than the quantitative approach advocated by Dr. Bryant. In footnote 1556, the FCC notes that "actively providing" can be determined by reviewing whether the competitive switching provider has filed a notice to terminate service in the market. Such an

investigation should satisfy the Authority that there is "active" provisioning of service, since in paragraph 500 of the *TRO*, the FCC obliges states *not* to evaluate any other factors regarding CLEC provisioning because, as the FCC notes, even carriers in Chapter 11 bankruptcy protection "are often still providing service." The FCC's proscriptions would rule out open-ended requirements such as Dr. Bryant's proposal. Dr. Bryant's attempt to bootstrap an additional rule is undermined, not supported, by the section of the *TRO* that he identifies, and CLEC proposals to impose a *de minimis* requirement should be rejected as being inconsistent with the FCC's desire for a bright-line test that is designed to reduce administrative delay.

Q. SHOULD THE AUTHORITY CONSIDER ANY OF THESE ARGUMENTS?

A. No. These arguments do not represent genuine proposals. Rather, they are assertions of vague and unspecified steps that would compromise the bright-line test that the FCC requires. In creating the triggers tests, the FCC concluded that the thresholds that it created are "based on our agency expertise, our interpretation of the record, and our desire to provide bright-line rules to guide the state commission in implementing section 251." (*TRO* ¶ 498) The FCC declined to create ambiguous thresholds that would result in implementation issues and administrative delay.

Q. MR. GILLAN CONTENDS THAT, IN CONDUCTING A TRIGGERS ANALYSIS, THERE IS A DIFFERENCE BETWEEN AN "ENTERPRISE

SWITCH" AND A "MASS MARKET SWITCH". (GILLAN DIRECT PP. 38-41) HOW DO YOU RESPOND?

A. This contention is simply a distraction that the Authority should reject. The actual rules refer only to "local switches" (for the self-provisioning trigger) and "switches" (for the wholesale trigger). There is no distinction between a so-called "enterprise" and "mass market" switch, despite Mr. Gillan's suggestions to the contrary.

The text of the *TRO* is consistent with the rules – in the triggers analysis portion of the text, the FCC does not make any distinction between or require that a particular switch be dedicated solely to providing enterprise or mass market switching. Contrary to these witnesses' contentions, the language of the *TRO* clearly contemplates that carriers will use a single switch or switches to serve *both* enterprise *markets* and mass *markets*. This language is reflected in the paragraphs Mr. Gillan relies upon in his testimony; specifically, at ¶ 441 the FCC states:

> For example, in order to enable a switch serving large enterprise customers to serve mass market customers, competitive LECs <u>*may*</u> need to purchase additional analog equipment, acquire additional collocation space, and purchase additional cabling and power. (Emphasis added).

Likewise, at ¶ 508:

> We determine that to the extent that there are two wholesale providers or three self-provisioners of switching serving the voice *enterprise* market, and the state commission determines that these providers are operationally and economically capable of serving the *mass* market, this evidence must be given substantial weight by the state commissions in evaluating impairment in the mass market. We find that the existence of serving customers in the *enterprise* market to be a significant indicator of the possibility of serving the mass market because of the demonstrated scale and scope economies of serving numerous customers in a wire center using a single switch. (Emphasis in original.)

Clearly, the FCC expects carriers to use a single switch to serve customers in both the enterprise and mass markets. While the FCC has precluded the use of switches that serve *only* the enterprise market from qualifying for the triggers analysis, it is ludicrous to exclude as a triggers candidate a carrier's switch that serves *both* markets, which is the ultimate outcome of a competitive market. It would be equally absurd to engage in some type of capacity counting exercise and try to allocate switch capacity between various markets. The rules require only that the switches used to meet the triggers analysis are serving either mass market customers or DS0 capacity loops and any attempt to create additional requirements where none exist should be rejected by the Authority.

POTENTIAL DEPLOYMENT TEST

Q. PLEASE EXPLAIN THE ERRORS WITH DR. BROWN'S DIRECT TESTIMONY.

A. Dr. Brown claims that the existence of term contracts in the mass market will "impair" CLEC entry without the local switching UNE. Dr. Brown asserts that the early termination fees ("ETFs") that may be associated with term contracts increase the cost of attaining mass market customers (Brown, pp. 6-7) and that this may preclude CLEC entry as the number of customers without term contracts declines. (Brown, p. 8.) Dr. Brown then argues that UNE-L-based CLECs have higher costs than UNE-P-based CLECs. (Brown, pp. 8-9.) One infers that his point is that existence of term contracts somehow affects the viability of UNE-L-based CLECs more than it does UNE-P-based CLECs. Dr. Brown neglects to mention the ETFs he complains about have been limited by tariff and approved by the Authority. (See, for example BellSouth tariff B2.4.9A.4.)

Dr. Brown's theory is fatally flawed. He bases his entire theory on a definition that is contrary to the FCC's. Dr. Brown instead adopts a definition of "impairment," based on CLEC cost disadvantages, that was specifically rejected by the U. S. Supreme Court as being inconsistent with the Telecommunications Act, and which, accordingly, the FCC declined to adopt in the *TRO*.[5] Moreover, Dr. Brown does not even purport to conduct an analysis of triggers or a business

[5] (*AT&T v. Iowa,* 525 U.S. 366; 119 S. Ct. 721; 142 L. Ed. 2d 834; 1999 U.S. LEXIS 903; 67, p. 12; also TRO at ¶ 112.)

case analysis, as required by the FCC, but instead presents three hypothetical situations whose conclusions are based on his flawed interpretation of "impairment." Accordingly, Dr. Brown's conclusions provide no useful information relevant to evaluating CLEC impairment.

Q. PLEASE EXPLAIN WHY DR. BROWN'S CONCERNS ARE TRIVIAL ACCORDING TO HIS OWN NUMBERS.

A. Dr. Brown claims that since 1998 the incumbent has secured approximately 1,000 long-term contracts with customers in Tennessee. (Brown, p. 41.) He also estimates that there are 2.5 million mass-market lines in Tennessee. (Brown, p. 22) Even assuming for the sake of argument that all of the mass-market customers who signed up for term agreements in 1998 still remain on some sort of term agreement (which is obviously not the case) and further assuming for the sake of argument that all 1,000 contracts apply to 3-line customers, there would be at most only 0.14 percent of mass-market customers are under term contracts. The other 99.86 percent of mass-market customer lines would not be under term contracts, according to Dr. Brown's own data, and these customers can be directly solicited by CLECs without any potential issue with ETFs. Moreover, even the very small minority of customers with term contracts can be expected to be rolling off their contracts at various times.

Dr. Brown provides several examples of mass-market customers using term contracts. His examples include Captain D's, Shoney's, Quick Cash, and Security Finance. (Brown, p. 33) These are business customers that routinely are

given the option to make decisions about whether to enter into contracts with a host of suppliers. Presumably these firms enter into term contracts with the understanding that they will not be able to keep all of the benefits of the term contract if they breach the contract, and that they only enter such contracts because they conclude that, on balance, they benefit from them. Eliminating term contracts for these mass-market customers may, in some microscopic and unmeasurable way, benefit particular CLECs in particular situations, but it would do so by raising the prices to, and thereby harming, mass-market telecommunications customers in Tennessee. The goals, expressed in the Telecommunications Act's long title are "To promote competition and reduce regulation in order to *secure lower prices* and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies." (Emphasis added.)

Q. YOU SAID THAT DR. BROWN BASES HIS ANALYSIS AND CONCLUSIONS ON AN INCORRECT DEFINITION OF IMPAIRMENT. PLEASE EXPLAIN.

A. The FCC describes impairment as follows:

> We find a requesting carrier to be impaired when lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a

> market uneconomic. That is, we ask whether all potential revenues from entering a market exceed the costs of entry, taking into consideration any countervailing advantages that a new entrant may have. (TRO, at ¶ 84)

As I have discussed in my direct testimony, the FCC's "potential deployment test" is among the tests for impairment. When implementing the potential deployment test, the FCC requires that a state conduct a "business case" analysis that considers whether all potential revenues from entering a market exceed the costs of entry, taking into consideration any countervailing advantages that a new entrant may have. The business case analysis requires a granular, discounted cash flow model that properly evaluates revenues and costs. BellSouth's business case model is addressed in the testimony of Dr. Debra Aron and Mr. James Stegeman.

However, Dr. Brown neither interprets impairment according to the FCC's definition, nor does he conduct any business case analysis whatsoever to determine whether term contracts, in fact, make uneconomic CLEC entry without access to the local switching UNE. Instead, Dr. Brown defines "impairment" simply as being a situation where the CLEC's costs may increase (in attempting to serve particular customers). For example, Dr. Brown claims that an ETF is a "fundamental economic barrier, which by itself makes uneconomic the CLEC's mass-market-entry (sic) via UNE-L, thus qualifying as an exceptional economic barrier meeting the FCC's directive in para. 503 of the TRO." (Brown, p. 9) Dr.

Brown also variously claims that "impairment" exists if the CLEC's costs increase as a result of buying out the ETF (Brown, pp. 26, 34, 39) or where the ILEC engages in "strategic behavior" (e.g., price reductions via term contracts) that "shrink or eliminate" the CLEC's profit margin (Brown, p. 27) or where the ILEC raises CLECs' costs or lowers CLEC service quality. (Brown, p. 27) Dr. Brown does not state whether he would make his claims after considering the totality of revenues, costs, and countervailing advantages. Dr. Brown's characterizations and definitions of "impairment" are simply inconsistent with the FCC's approach and its requirements. Definitions of "impairment" that are based merely on *cost increases*, without a full consideration of countervailing benefits, have been rejected by the FCC. Clearly, under the TRO, it is insufficient in assessing impairment merely to claim that a CLEC's costs may be higher in a market where there are term contracts and ETFs. Dr. Brown cites nothing whatsoever from the TRO that suggests that the use of term contracts has any relevance to this proceeding.

Q. PLEASE FURTHER DESCRIBE WHY DR. BROWN'S APPROACH DOES NOT MEET THE FCC'S REQUIREMENTS FOR AN IMPAIRMENT ANALYSIS.

A. As I mentioned, Dr. Brown does not conduct a "business case" analysis to determine impairment. Instead, he considers three hypothetical instances where he argues that the CLEC would be "impaired" in the sense of either not serving a

particular retail customer or where the CLEC's costs to serve a customer would be increased if the CLEC had to pay the ETF in order to win over a specific customer who was currently served under a term contract.

Dr. Brown's "Case I" describes a hypothetical instance where the CLEC elects to pay off the ETF of a retail customer that is under a term contract of either the ILEC or, what may also be the case, another CLEC. Dr. Brown claims that this is "impairment" because it increases the CLEC's costs. (Brown, p. 39)

Dr. Brown's Case I does not demonstrate any evidence of impairment. As explained above, it is based on the (incorrect) assumption that impairment exists whenever a CLEC's costs are increased for particular customers. Dr. Brown does not demonstrate that the switch-based CLEC cannot economically enter a particular market by considering *all* of the costs and revenues associated with entering a market, including the costs (and revenues) of winning and serving customers not under term contracts as well as the very small minority of customers under term contracts, as is required by the FCC's impairment analysis. Even if a *particular* customer is served under a term contract, in the real world, the vast majority of customers are available, and, in fact, even customers with term contracts are rotating off their term contracts at various times and those customers are available to a CLEC without triggering any ETF. In those instances, the efficient CLEC may choose to wait for a particular customer's contract to reach its end, and then market to that particular customer.

In Case II, Dr. Brown describes the hypothetical situation where the CLEC elects not to buy out the ETF of the customer under a term contract and the customer stays with its current provider, such as BellSouth or another CLEC. As I noted, the CLEC may chose to ignore that particular customer, and instead market to the other 99 percent of customers not currently under term contracts. Or, as I also noted, the CLEC can simply wait until the contract expires for that customer. Thus, at most, this example describes a *delay* in the CLEC's service to a potential new customer, which would mean that the potential for revenues from these particular customers are pushed out into the future somewhat. However, Dr. Brown's analysis does not provide any evidence of whether this would cause entry without the switching UNE to be uneconomic.

In Case III, Dr. Brown claims that the existence of term contracts with ETFs prevents CLECs from being "Willing To Provide Service To All Customers In Designated Market" and prevents CLECs from "Being Capable Of Economically Serving The Entire Market." (Brown, p. 45) Dr. Brown is citing to language that the FCC modified in its Errata of September 17, 2003. The revised language in paragraph 499 of the TRO clearly indicates that the FCC is discussing *wholesale switching services providers*.

Identified carriers providing *wholesale* service should be actively providing voice service used to serve the mass market~~,~~ and be operationally ready and willing to provide wholesale service to all competitive providers in the designated market. ~~providing it at a cost and quality and geographic scope that allow resellers to serve the entire market. They must also be operationally ready and willing to provide service to all customers in the designated market.~~ As we stated above, a party aggrieved by a state commission determination, including a decision on the appropriate market definition, may seek a declaratory ruling from this Commission. *See supra* para. 426 (discussing declaratory ruling determinations). Accordingly, this Commission will exercise its authority as necessary to ensure that state market determinations are reasonable and comport with the guidance set forth herein. ~~They should be capable of economically serving the entire market, as that market is defined by the state commission. This prevents counting switch providers that provide services that are desirable only to a particular segment of the market. Identified carriers providing wholesale service should be actively providing voice service used to serve the mass market, and providing it at a cost and quality and geographic scope that allow resellers to serve the~~

~~entire market.~~ However, the competing carriers' wholesale offerings need not include the full panoply of services offered by incumbent LECs. (TRO at ¶ 499. As amended in the FCC's Errata September 17, 2003 (item number 21). Emphasis in original, footnotes omitted.)

Thus, this language is not even addressing retail customers at all, let alone retail customers who happen to use term contracts from BellSouth or any other service provider. Dr. Brown's "case" is simply inapplicable to the FCC's impairment analysis.

Q. DO YOU HAVE ANY OTHER OBSERVATIONS ABOUT DR. BROWN'S ANALYSIS?

A. Yes. Term contracts reflect a quid pro quo where buyer and seller are made better off by the exchange. Inhibiting term contracts in a misguided attempt to assist CLECs helps neither genuine competition nor customers. It simply results in higher prices to those customers who are willing to make certain commitments to their service providers. The TRA has invested significant time evaluating the impact of termination charges in term contracts. The TRA has approved a BellSouth tariff, specifically establishing termination liability provisions for term contracts in Docket No. 01-00681, *Tariff to Modify Tariff Term Plan Termination Liability Charge.* No party, including the CAPD, objected to the approval of the tariff. The TRA also rejected arguments by the CAPD that

termination charges were anti-competitive in Docket No. 98-00559, *Proceeding for the Purpose of Addressing Competitive Effects of Contract Service Arrangements Filed by BellSouth Telecommunications, Inc.*[6]. The TRA has also recognized the importance of fostering negotiated contractual rates for business customers consistent with the specific guidance of the Tennessee General Assembly's enactment of Tennessee Public Chapter 41. Specifically, in the May 5, 2003 Report and Recommendation of the Hearing Officer in Docket No. 00-00702 (adopted by the TRA on May 12, 2003), the Hearing Officer described the substantial review by the TRA of the same issues raised by Dr. Brown. In short, there is no new angle on termination liability that is either relevant to the impairment analysis or that has not been considered numerous times (and rejected) by the TRA.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

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[6] For consideration of these issues, the Authority consolidated the following dockets with Docket No. 98-00559: Docket No. 99-00244, *BellSouth Telecommunications, Inc.'s Tariff to Offer Contract Service Agreement KY98-4958-00 for an 11% Discount of Various Services (*"the Bank*")* and Docket No. 99-00210, *BellSouth Telecommunications, Inc.'s Tariff to Offer Contract Service Agreement TN98-2766-00 for a Maximum 13% Discount of Various Services* ("the Store").

CERTIFICATE OF SERVICE

I hereby certify that on February 27, 2004, a copy of the foregoing document was served on the parties of record, via the method indicated:

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BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF DR. DEBRA J. ARON

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 03-00491

FEBRUARY 27, 2004

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION.

A. My name is Debra J. Aron. I am the Director of the Evanston office of LECG, and Adjunct Associate Professor at Northwestern University. My business address is 1603 Orrington Avenue, Suite 1500, Evanston, IL, 60201.

Q. ARE YOU THE SAME DEBRA J. ARON WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony responds to the economic arguments made by Dr. Mark T. Bryant on behalf of MCI, Mr. Steven E. Turner on behalf of AT&T, Mr. Don J.

Wood, also on behalf of AT&T, and Mr. Joseph Gillan on behalf of CompSouth. I am also submitting a revised Exhibit DJA-02 which reflects refinements made to the list of BellSouth wire centers and lists all markets that pass the potential deployment analysis. I am also submitting a revised Exhibit DJA-07. I inadvertently filed an exhibit showing business customer acquisition costs (DJA-07) that used Florida data. I am resubmitting it with the Tennessee data. I will note that the BACE runs used the Tennessee data—it is only my exhibit that requires an update.

II. RESPONSE TO DR. BRYANT

Q. PLEASE COMMENT ON DR. BRYANT'S ARGUMENT THAT THE SOCIAL COSTS OF FINDING NO IMPAIRMENT WHERE IMPAIRMENT EXISTS ARE GREATER THAN THE COSTS OF FINDING IMPAIRMENT WHERE NO IMPAIRMENT EXITS. (BRYANT DIRECT 20-21.)

A. This is an unsupported and, in my opinion, seriously misguided conjecture on the part of Dr. Bryant. Mr. Gillan makes similar arguments, so my comments here will apply to his testimony as well. The asymmetry between the effects of the two potential types of errors recited by Dr. Bryant is of a different type than claimed by Dr. Bryant. The asymmetry is in the *observability of the outcomes*. If the Tennessee Regulatory Authority ("TRA" or "Authority") errs in finding impairment where none exists, the social costs are extremely difficult to measure,

because the nature of the social cost is in the lost investment, innovation, and economic development that would have been forthcoming but remains unknown and unobserved. This, however, does not make these losses any less real nor less significant. In contrast, if the TRA errs in finding no impairment where impairment exists, the social cost is merely the foregone entry of carriers who would, in any event, rely entirely on the network of the incumbent (what the D.C. Court of Appeals, in *USTA v. FCC,* referred to as "synthetic" competition). The social cost, therefore, is likely to be relatively low, while the observed effect—that there will be fewer visible "competitors" in the market—would be relatively apparent. Hence, while the asymmetry of social costs would, if anything, favor erring on the side of finding no impairment, the political pressure clearly favors a finding of impairment. Regulatory authorities should resist the temptation to succumb to short run incentives to behave myopically for purposes of preserving the *perception* of competition, and instead seek to engage in decision making that maximizes social welfare and will encourage *true* competition. By law, carriers are entitled to unbundled local switching where impairment exists, but this entitlement should not be confused with the social-welfare benefits of promoting facilities-based competition where such competition can be economic.

Q. PLEASE ELABORATE ON THE SOCIAL WELFARE COSTS OF AN ERRONEOUS FINDING OF IMPAIRMENT.

A. The FCC recognized that unbundling is "one of the most intrusive forms of economic regulation—and one of the most difficult to administer." (TRO ¶ 141.) This intrusive form of regulation diminishes the incentives for the facility owner to keep up or improve the property, as it must share the benefits of those investments with its competitors. (Breyer *Iowa Utilities*, TRO ¶ 64.) It also can damage the incentives of CLECs to invest in network infrastructure. There are, as well, significant administrative and social costs of managing a shared resource. (TRO ¶ 64.) Facilities-based competition reduces the need for administrative oversight and regulation and therefore better serves the Act's goal of reduced regulation.

Facilities-based competition also better serves the Act's goal of innovation. UNE-P-based CLECs are restricted in their ability to innovate because they cannot innovate along the dimensions (that is, facilities) that are owned or controlled by the ILEC. In addition, the FCC found that facilities-based competition creates redundancy, which increases reliability and enhances national security. (TRO fn. 233.)

As noted by FCC Chairman Michael Powell in his Separate Statement to the TRO, facilities-based competitors can offer differentiated service, they can control more of their own costs thereby offering consumers real potential for lower prices, they are less dependent on the incumbent, and they provide vital redundancy of networks. (TRO Powell Separate Statement, page 3.) It is for these reasons, and perhaps others, that the FCC "disagree[s] that duplication of facilities is necessarily

'wasteful'" (TRO fn. 233.) and that "we disagree with commenters that argue that the Act contains a 'statutory mandate of equal treatment for all three options.'" (TRO fn. 233.) It is also for these reasons that the Congress did not create a general unbundling obligation, but instead provided a limitation in the form of the Section 251 requirements.

Q. DOES DR. BRYANT MISSTATE THE EFFECTS OF A FINDING OF NON-IMPAIRMENT WHEN HE CLAIMS THAT "UNE-P COMPETITION WILL BE TERMINATED, AND ALL CONSUMERS CURRENTLY SERVED BY UNE-P CLECS WILL BE FORCED TO MAKE A CHANGE IN THEIR TELEPHONE SERVICE: EITHER SWITCHING BACK TO THE ILEC, SWITCHING TO A UNE-L CLEC, OR SWITCHING TO THEIR EXISTING CLEC'S NEW UNE-L FACILITIES"? (BRYANT DIRECT 16.)

A. Yes, this is an erroneous statement for several reasons. A finding of "non-impairment" does not necessarily terminate UNE-P competition, but rather terminates (over time) the ILEC's obligation to provide unbundled local switching at regulated prices. Incumbent carriers may continue to provide unbundled local switching on commercially agreeable terms, as determined by the actions of the marketplace. Moreover, a finding of non-impairment does not terminate competition, but rather shifts the focus of competition to UNE-L and bypass competition, which, as I discussed, and as the FCC agrees, provides for the potential of a more robust and vigorous form of competition than can UNE-P.

Finally, a finding of non-impairment does not immediately "terminate" UNE-P, it merely begins a gradual phase-out process.

In addition, it is simply not true that the gradual switch from UNE-P to UNE-L in areas where there is no impairment "forces" consumers to make a change in their telephone service. The transition of customers from UNE-P to UNE-L is a service provider issue, not a consumer issue. Switching the service platform from the ILEC's switch to the CLEC's does not require the consumer to make any change at all. Certainly, there would be no injury to the CLEC's customer due to being served by the CLEC's switch rather than that of the ILEC.

Dr. Bryant may be envisioning instances in which a CLEC would rather exit the market than pursue the UNE-L opportunity. This is, of course, a possibility, particularly for CLECs with no particular comparative advantage or expertise with the deployment of actual telephone network facilities. Where CLECs are unimpaired, however, the exit of particular carriers who cannot survive if required to compete without regulatory favor creates opportunities for those who can. It would be poor public policy to perpetuate a defective regulatory policy (mandated unbundling where CLECs are not impaired) simply to sustain an artificial market structure.

Q. DR. BRYANT ARGUES THAT CLECS "HAVE MUCH TO GAIN BY LIMITING THEIR DEPENDENCE UPON THE INCUMBENT." (BRYANT DIRECT 22.) PLEASE COMMENT.

A. Dr. Bryant ignores the fact that CLECs have much to gain by depending on an incumbent that remains under the firm grip of regulation. A CLEC that has available to it UNE-P at regulated prices can defer making investments by using UNE-P even when there would be no impairment without it. Thus, rather than actually investing in bringing new, facilities-based technologies to the market place, UNE-P permits CLECs to defer investment in infrastructure. While such an approach may benefit the individual CLEC business plan, it delays the benefits that new technology brings to consumers.

Q. DR. BRYANT CLAIMS THAT THE ACT "DOES NOT GIVE PREFERENCE" TO THE THREE TYPES OF ENTRY VEHICLES (RESALE, UNE-BASED, AND FACILITIES-BASED) FOR WHICH IT PROVIDES. (BRYANT DIRECT 23.) IS THIS CORRECT?

A. No. In fact, that is not the issue. While one can argue that the law is agnostic about which form of entry a particular CLEC chooses, the law is perfectly clear that where CLECs are not impaired without access to any given unbundled network element, unbundling that network element is not required. Hence, where CLECs are not impaired without access to unbundled local switching, for example, the Act

strictly disfavors—i.e., precludes—UNE-P based entry. This Authority is not being asked to make an impairment decision *despite* the Act's alleged neutrality over different entry vehicles, but precisely *because* the Act strictly favors facilities-based entry (or resale) where there is no impairment, to the point of requiring it. The Act's philosophy in that regard is the foundation of this proceeding.

Q. DR. BRYANT CLAIMS THAT THERE IS AN INCONSISTENCY IN BELLSOUTH'S POSITION, IN LIGHT OF THE ALLEGED FACT THAT ILECS ARE NOT BUILDING THEIR OWN LONG DISTANCE NETWORKS. (BRYANT DIRECT 24.) IS THERE AN INCONSISTENCY?

A. No, for two reasons. First, wholesale long-distance service is not an unbundled network element. Long-distance carriers need not offer wholesale service, nor must they price it at TELRIC if they do offer it. Similarly, it may be the case that in markets where CLECs are not impaired without access to unbundled local switching, ILECs nevertheless may provide switching at market-determined prices, just as some long-distance carriers provide wholesale long-haul services at market-determined prices. Thus, a finding of no impairment actually introduces consistency for the use of local and long distance networks—both will be priced according to market forces.

Second, ILECs are in fact bringing new long distance capacity to the market, to the extent that they are not leasing capacity from the big three incumbents, but rather

leasing capacity from newcomer wholesale providers such as Williams Communications.

Q. DOES DR. BRYANT OFFER AN ANALYTICAL TOOL TO ASESS IMPAIRMENT? (BRYANT DIRECT 1-2.)

A. Dr. Bryant sponsors a model, or "analytical tool," upon which he relies to make recommendations to the Authority as to the geographic markets in which he believes CLECs are impaired without access to unbundled local switching. His model, however, is flawed in a number of critical respects, rendering his conclusions irrelevant to an assessment of impairment.

Q. DR. ARON, FROM YOUR PERSEPECTIVE AS AN ECONOMIST, PLEASE DESCRIBE THE PROBLEMS WITH DR. BRYANT'S ANALYTICAL MODEL.

A. First, Dr. Bryant's uses an improper framework for analyzing potential deployment and therefore impairment. Moreover, even within the context of the analysis itself, Dr. Bryant makes several assumptions that do not reflect the potential of a reasonably efficient CLEC. In particular, based on the extensive research I have performed on these issues, I conclude that Dr. Bryant's assumptions regarding prices, customer acquisition costs, churn, bad debt, DSL penetration, and DSL prices do not reflect the opportunities available to an efficient CLEC.

Q. WHAT DO YOU MEAN WHEN YOU SAY THAT DR. BRYANT'S ANALYSIS USES "AN IMPROPER FRAMEWORK"?

A. The FCC explains in great detail what it believes is the economically appropriate framework for evaluating potential deployment of a reasonably efficient CLEC. The FCC is clear that an impairment analysis should be based on a business case analysis ("[S]tates should perform a business case analysis of providing local exchange service" (TRO fn.1581)). Based on my many years of experience as a business school professor, as well as my general knowledge as a professional economist, I can say that a proper and standard business case analysis for a startup firm would model the costs and revenues per period (typically, per year) over several years and then calculate the discounted present value of the cost and revenue flows. Explicitly modeling the business over a period of time is important in modeling new entry in particular, because entry typically requires start-up costs that are incurred right away but only recovered over time. That is, revenues tend to increase over time, so that there is a mismatch between the timing of revenues and the timing of costs. If one fails to model the costs and revenues over time, one cannot readily capture the fact that many costs are incurred immediately, but revenues that may justify those costs may start small and increase over time. A static model that, for example, considers only the first year or two of operation would tend to overstate costs and understate revenues, concluding that the enterprise is not profitable, when in fact it may be if the discounted present value of

future revenues and costs are accounted for. Dr. Bryant admitted in discovery in Florida that a company's business plan can have negative net revenue in the early years and nevertheless have a positive net present value ("NPV") over a specified period of time. (See MCI Response to BellSouth Florida Interrogatory 3-150.) Alternatively, a model that compares only the long run "steady state" costs and revenues would tend to ignore the up-front costs of entry. A proper business case analysis accounts for all these effects by explicitly modeling the costs and revenues over time and calculating a discounted present value of the firm. A snapshot or static business model that considers only a single (or "typical") period of costs and revenues is not likely to be a valid and robust business case from which reliable conclusions can be drawn.

The approach adopted by Dr. Bryant suffers from this fundamental structural defect. Dr. Bryant's impairment tool is based on a model developed by the National Regulatory Research Institute ("NRRI"). The NRRI model is a single-period or static spreadsheet that appends revenue estimates to an annualized costing model. Dr. Bryant admitted in discovery that he did not perform a time series analysis with respect to the use of his impairment tool. (MCI Response to BellSouth Florida Interrogatory 3-163.) This approach therefore fails to conform to the business case (net present value) methodology that would properly assess the viability of a business and that the FCC unequivocally requires. It would therefore be inappropriate to use Dr. Bryant's model to decide issues raised by the TRO.

Q. ARE YOU AWARE OF ANY OTHER STRUCTURAL DEFECTS WITH DR. BRYANT'S MODEL?

A. Yes. Dr. Bryant's model ignores the ability of the CLEC to serve medium and large business customers. (See MCI Response to BellSouth Florida Interrogatory 3-175) Ignoring this market segment violates the principles of sound business case analysis, and is contrary to the explicit guidance provided by the FCC ("The state must also consider the revenues a competitor is likely to obtain from using its facilities for providing data and long distance services and from serving business customers" (TRO ¶ 519)). It is contrary to the principles of sound business case analysis because the ability of a CLEC to serve the enterprise market affects its ability to share the costs of a switch, transport, collocation and other items across market segments. As the FCC observes, this potential to share costs is a form of scale economies (considering revenues from business customers "will therefore take into account the scale and scope economies available to carriers using existing facilities to provide a variety of services to all customers that are likely to be served by an efficient entrant." (TRO fn. 1585)). A rational CLEC will consider the ability to leverage these potential scale economies as part of its business case analysis. While it may not be economic for a CLEC to invest in a switch to serve only the enterprise and small business market, it may well be economic to invest in a switch to serve these customer segments along with the enterprise market. The correct standard for assessing whether it is economic to serve the mass market via UNE-L is to determine whether serving the mass market provides positive NPV to

a hypothetical CLEC that also has the possibility of serving the enterprise market. Ignoring this possibility deprives the CLEC of legitimate scale economies and could therefore lead to a conclusion of impairment when there is no impairment. This further reinforces my conclusion that Dr. Bryant's modeling approach fails to meet the FCC's standards and so its results can be given no weight in determining impairment.

Q. ARE THERE ANY OTHER ASPECTS OF DR. BRYANT'S MODEL ON WHICH YOU CAN COMMENT?

A. Yes. It is clear that Dr. Bryant has offered unsupported and unreasonable inputs that drive his results. These include his inputs for revenues, penetration, bad debt, customer acquisition costs, and customer churn.

Q. DR. BRYANT BEGINS HIS DISCUSSION OF THE "PROCESS [HE USED] TO ESTIMATE REVENUE" RELEVANT TO A CLEC CONSIDERING POTENTIAL DEPLOYMENT WITH ASSERTIONS THAT FUTURE REVENUES WILL FOLLOW A DECLINING PATH OVER TIME. (BRYANT DIRECT 77-79.) WHAT IS THE RELEVANCE OF THIS DISCUSSION?

A. There is none, insofar as Dr. Bryant clarified in discovery (in Florida) that he does not use these estimates. (See MCI Response to BellSouth Florida Interrogatory 3-

145.) However, I will describe the inconsistencies and flaws in his approach because in his testimony, Dr. Bryant claims that prices may decrease by 11 to 20 percent over time. (Bryant Direct 84.)

Dr. Bryant says that he begins his revenue analysis with the ILEC's existing rates. (Bryant Direct 79.) He then claims that prices will decline 11 to 20 percent from that level over time as a result of competition. (Bryant Direct 84.) This conclusion is deficient in a number of respects, but the main deficiency is that it violates the requirements of the FCC's potential deployment analysis. The FCC requires that states evaluate potential deployment business cases *using the existing level of prices and revenues*. The FCC concludes that it "expect[s] states to consider prices and revenues prevailing at the time of their analyses." (TRO fn. 1588.) The FCC thereby concludes that existing prices and revenues are reasonable proxies for likely prices and revenues after competitive entry and will result in a more administrable standard.

Q. PLEASE DESCRIBE ANY OTHER DEFICIENCIES WITH DR. BRYANT'S ANALYSIS OF PROJECTED PRICE TRENDS.

A. Dr. Bryant produced his analysis in discovery (in Florida). Upon review of that document, I note that his analysis, while ignoring any potential for innovation that could increase demand or provide new services (and other deficiencies), he assumes that CLECs will, in aggregate, achieve *over a 21 percent market share in*

the first year, and achieve *over 47 percent of the market by year ten*. (MCI Response to BellSouth Florida Interrogatory 3-144, page 12.) In contrast, Dr. Bryant claims that his impairment model will assume that an efficient CLEC will have a market share of 5 percent. (Bryant Direct 87.) If Dr. Bryant believes that an efficient CLEC could not achieve a market share above 5 percent, it is disingenuous to quote results to the TRA about price trends that he predicts only on the assumption that CLECs will capture nearly half the market.

Q. IF DR. BRYANT DOES NOT INCORPORATE THE PRICE TREND ASSUMPTIONS INTO HIS MODEL, WHAT IS THE BASIS FOR HIS REVENUE ASSUMPTIONS?

A. Dr. Bryant claims that his model uses data on residential revenue that he obtained from TNS Telecoms that is based on subscriber surveys. (Bryant Direct 88.) He also says that his business revenue is "based on the calculation of the differential between the bundled price for residential and business services sold by MCI in Tennessee." (Bryant Direct 88.)

Q. PLEASE COMMENT ON THE USE OF THE SURVEY DATA AS A BENCHMARK FOR DR. BRYANT'S PRICE ASSUMPTION. (BRYANT DIRECT 88.)

A. Dr. Bryant claims that he uses the average spending per household for each wire center. Although he does not identify these amounts, in his model he uses, on average, ***[redacted]*** for residence and ***[redacted]*** for businesses. In my direct testimony, I demonstrated that CLECs currently cream skim the better customers primarily by avoiding the lowest spend residential quintile and the lowest spend SOHO tercile. Avoiding the lowest spend categories can substantially increase the average spend of those actually served by the CLEC. (For example, if terciles produce average spending levels of $10, $40, and $70, the average overall spending level is $40, but the average of the top two terciles (i.e., eliminating the lowest tercile) is about a third higher: $55.) Second, and somewhat related, is that the averages produced by the bill harvest survey may not reflect what CLECs are charging, or what an efficient CLEC may charge, but instead, may reflect average spend of an ILEC customer. I have found Dr. Bryant's TNS Telecoms data to be biased low in Florida and Georgia.

In fact, this appears to be the case here, since Dr. Bryant's estimate is shown to be deficient by MCI's own data submitted in discovery. In responding to Bellsouth's Request for Information No. 1-26 in Tennessee, MCI claimed that its "Integrated" residential per-customer revenue for "qualifying" service in Tennessee was ***[redacted]***. This is ***[redacted]*** the residential per-customer revenue figure used by Dr. Bryant, and the "Integrated" figure is ***[redacted]*** the business per-customer revenue figure used by Dr. Bryant. While MCI's own

revenue numbers are not determinative of the revenue potential of an efficient CLEC, it is unreasonable to suppose that the efficient CLEC, executing the most efficient business model, would not be able to at least replicate MCI's experience. This demonstrates that Dr. Bryant's figure cannot be that of an efficient CLEC, executing the most efficient business model, and using the advantages available to it, as the TRO requires.

Q. DOES THE BACE MODEL USE THE ILEC'S EXISTING LEVEL OF PRICES AND REVENUES?

A. No, it adjusts them downward. The BACE model uses the ILEC's prices as a "starting point," as advocated by Dr. Bryant, (Bryant Direct 79) and then the BACE model assumes that when CLEC customers purchase services *à la carte*, they pay 90 percent (i.e., a 10 percent discount from the ILEC prices) for the local services of what they would pay if purchasing the same services from the ILEC. This adjustment is not applied as a price trend, but as a once-and-for-all (constant in each period) 10 percent cut. Hence, the BACE model incorporates a "CLEC discount" from ILEC rates. For bundled services, the BACE model assumes that CLECs offer a number of bundle types, the prices of which are based on the actual prices of the relevant bundles actually offered by CLECs in Tennessee. The model assumes, consistent with the direction provided by the FCC, that these prices do not change over time.

Q. WHAT DOES DR. BRYANT ASSUME ABOUT CUSTOMER ACQUISITION COSTS? (BRYANT DIRECT 88.)

A. Dr. Bryant assumes that the efficient CLEC will spend $130 per line to acquire a customer, whether that is a residential or business customer.

Q. WHAT EVIDENCE DOES DR. BRYANT PROVIDE IN SUPPORT OF THIS ASSUMPTION?

A. Dr. Bryant himself presents no justification in his testimony. (Bryant Direct 88.) However, in response to BellSouth's Florida Interrogatory 3-153, Dr. Bryant simply offers that this is "the default value used by Dr. Gabel in the NRRI model."

I would like to have the opportunity to determine how Dr. Gabel arrived at his figure, because it is not evident based on the response provided to Florida Interrogatory 3-153. The figures presented in this response include, first, a CLEC (Z-Tel) whose customer acquisition costs are claimed to be between $80 and $100. This experience is some $30 to $50 less than the $130 used by Dr. Gabel (and, derivatively, by Dr. Bryant). Dr. Bryant does not explain whether or how he incorporates that experience into his estimate. I will note, however, that my recommendation ($95 for residential customers) is in the range of costs estimated for Z-Tel that Dr. Bryant claims in his discovery response. If an *actual* CLEC can attain these levels, it would seem that this is an important datum regarding what an

efficient CLEC might attain. I am also aware that Z-Tel's Chief Executive Officer, Gregory Smith, estimated Z-Tel's fourth quarter 2001 customer acquisition costs to be about $60 per gross addition. I have added this additional information to Exhibit DJA-06.

The figures presented by Dr. Bryant in response to discovery also include the customer acquisition costs of a cable-TV company that offers voice telephony in some areas of the country and several examples of wireless service providers. However, Dr. Bryant does not demonstrate how he derives his recommended $130 from any figure, or combination of figures, in the response, or how one might adjust the wireless (and possibly cable TV) figures to account for interindustry differences, such as the fact that many wireless carriers provide and program the handset "free" to new customers, or that they sign up customers to term contracts (and therefore can justify spending more to acquire customers).

Q. HOLDING ASIDE THE FACT THAT DR. BRYANT'S CUSTOMER ACQUISITION COST ESTIMATE IS UNSUPPORTED, IS HIS ASSUMPTION NEVERTHELESS A REASONABLE ONE?

A. No, it is unreasonably high for a residential line according to the data I have seen. As I explained and fully documented in my direct testimony, several CLECs have reported customer acquisition costs far below the number advocated by Dr. Bryant, and I have seen no published estimates that reach the $130 level. For example,

Talk America, a CLEC that markets primarily to mass-market customers, is estimated to spend on the order of $80 per customer acquisition. (See Vik Grover, "Raising Numbers Again," Kaufman Bros. Equity Research (KBRO Kaufman Bros. L.P.), April 30, 2003, p. 1. See, also, Excerpt from The Wall Street Transcript, "Company Interview: Gabriel Battista, Talk America Holdings, Inc." May 2003, p. 5.) Management at Z-Tel, another CLEC that markets primarily to mass-market customers, claims that it is trying to reduce customer acquisition costs to $50. (See James J. Linnehan, "Z-Tel Technologies, Inc.: Still Chugging Along," Thomas Weisel Partners Merchant Banking, August 13, 2001, p. 3.) While Z-Tel's customer acquisition costs have been estimated to be higher, the most recent estimate that I have seen is from Z-Tel itself. Gregory Smith, Z-Tel's Chairman and Chief Executive Officer, said that Z-Tel's customer acquisition costs are trending down and, as of the fourth quarter of 2001, were $60 per gross addition. (Gregory Smith, CEO and Chairman of Z-Tel, Transcript by Fair Disclosure Financial Network, February 28, 2002, p. 5.) For sake of completeness, I have added this and other information regarding Z-Tel's customer acquisition costs to my Exhibit DJA-06, which I am updating.

Indeed, according to Banc of America Securities, even AT&T's customer acquisition costs are somewhat less than Dr. Bryant's estimate, and are expected to drop 50 percent over the next five years. (David W. Barden, "AT&T Corporation: A Case for Consumer Services," Banc of America Securities—United States Equity Research, April 30, 2003, pp. 17, 20.) That same Banc of America report also

notes that wireless churn is on the order of 2.6 percent per month, which implies that the average customer stays with the wireless company for about 27 months, not the 12 months that Dr. Bryant assumes for his CLEC. None of these estimates for actual CLECs exceeds or even meets Dr. Bryant's recommendation for an efficient CLEC.

Finally, as I discussed in my direct testimony, the experiences of actual CLECs may not be indicative of what an efficient CLEC could accomplish. I described that UNE-P-based firms have the incentive to spend inefficiently high amounts to acquire customers. The reason is that having UNE-P available where there is no impairment provides CLECs with an opportunity to save on network investments, but these savings are dissipated in competition for new customers. The bottom line is that an estimate of customer acquisition costs, such as Dr. Bryant's, that exceeds the customer acquisition costs observed for UNE-P-based firms is, in and of itself, evidence of the unreasonableness of the estimate for an efficient UNE-L-based CLEC.

Q. PLEASE COMMENT ON DR. BRYANT'S ESTIMATE OF "CHURN."

A. In his testimony, Dr. Bryant says, "customer life is twelve months." (Bryant Direct 88.) Dr. Bryant also claims to evaluate the impact on impairment of using different customer lives between 8 and 16 months.

I have several comments about Dr. Bryant's churn assumption. First, I find it entirely implausible on its face that an efficient CLEC would spend $130 per line to acquire a customer that is expected to stay with the CLEC for only 12 months. Such a CLEC would have to collect nearly $11 per month just to recover its customer acquisition costs from its customers. In contrast, for example, Talk America, a UNE-P-based CLEC that serves the mass market, had monthly churn estimated at 4.1 percent (which implies that at the end of about 17 months, the CLEC will have lost about half of the customers that the CLEC had signed up at the beginning of that period) and customer acquisition costs of $80. (Vik Grover, "Talk America Holdings, Inc, Kaufman Brothers, April 30, 2003, p. 1.) This means that Talk America would have to collect approximately $4.70 per month over the life of its average customer to recoup its customer acquisition costs, or less than half of the monthly necessary recoupment implied by Dr. Bryant's churn and customer acquisition cost proposals.

Dr. Bryant argues that his assumption is based on the "recent experience of MCI" (Bryant Direct 88) and in discovery in Florida, he claims that this assumption is based on undocumented "interviews with MCI personnel." (MCI Response to BellSouth Florida Interrogatory 3-153 E.) Of course, even aside from the lack of documentation for this assumption, MCI cannot be the relevant standard because no effort has been made to demonstrate that MCI represents an efficient CLEC. Moreover, MCI's "recent experience" is not likely to reflect a long run equilibrium level of churn (as opposed to a start-up level of churn). This is particularly

important because the NRRI model that Dr. Bryant claims to use is a one-period "static" model, so his churn level is presumably expected to apply in a long-run equilibrium, not for the initial experience of a relatively new entrant in to the market.

Second, Dr. Bryant's estimate of churn also suffers from insufficient granularity. Dr. Bryant assumes that all types of customers will have the same average tenure with the CLEC. As the FCC noted in its TRO, business customers are less averse to signing term contracts (TRO ¶ 452), so although my 4 percent per month churn rate is reasonable for residential customers, one would expect that business customers would have lower churn rates. In light of the availability of contracting, especially for business customers, it is unreasonable to assume that the entire customer base of an efficient CLEC would turn over its entire base of customers every 12 months.

Finally, as I noted, Dr. Bryant claims that this assumption is based on his undocumented "interviews" of MCI personnel. While the specific results of a particular CLEC's business likely do not reflect the potential of an efficient CLEC, it nevertheless appears self-serving that Dr. Bryant relied on MCI for churn, but that he did not rely on MCI for other input items such as revenues. Moreover, in BellSouth Florida Interrogatory 3-160, Dr. Bryant was given the opportunity to explain why he chose Dr. Gabel's cost estimates in some instances and why he interviewed MCI personnel in other instances, but he offered no explanation.

Q. PLEASE COMMENT ON DR. BRYANT'S ASSUMPTION REGARDING BAD DEBT.

A. Dr. Bryant assumes that the efficient CLEC will experience bad debt of 5 percent of revenue (based, as I noted, entirely on undocumented "interviews" with MCI personnel). (MCI Response to BellSouth Florida Interrogatory 3-157.) This proportion is some 3 *times* the average historical bad debt experience of the RBOCs and is not representative of what one might reasonably expect an efficient CLEC to experience.

Managing bad debt is important because failure to pay for service exerts a double whammy: it is both a loss of revenues that falls to the bottom line, and it implies that the CLEC incurred costs to provide service that was never paid for. Thus, it is very important for firms to manage bad debt, and it is unreasonable to incorporate as part of an "impairment" analysis the assumption that a CLEC might fail to properly manage this very important cost with reasonable efficiency. If anything, CLECs should be able to avoid high-risk customers simply by refusing to serve them.

As one indicator of bad debt, I examined CLECs for which I could find uncollectibles percentages for either (or both) 2001 and 2002, one of which (2001) was a recession year. From 74 observations of CLECs and ILECs, I determined

that the median ratio of bad debt to revenues was about 2.9 percent. The median is an indicator of central tendency. The measure indicates that there are as many observations above 2.9 percent as there are below 2.9 percent. This is an extremely conservative indicator of the bad debt rate that an efficient CLEC should be able to attain. Indeed, one might argue that an *efficient* CLEC's rate of bad debt should be in one of the lower quintiles or deciles. Nevertheless, the actual (median) experience of the sample is substantially below Dr. Bryant's proposal, and more in line with the 2.75 percent that I recommend.

Q. PLEASE COMMENT ON DR. BRYANT'S ASSUMPTIONS REGARDING DSL PENETRATION RATES.

A. The effective proportions of CLEC business and CLEC residence customers that ultimately subscribe to DSL, as computed from Dr. Bryant's model, are about 1 percent for businesses and about 2.3 percent for residences. These effective penetration rates are too low to account for the customer targeting and bundling in which an efficient CLEC can engage.

Such targeting appears to be occurring with real-world CLECs. According to computations that I made based on DSL penetration data from Cahners In-Stat and on overall line penetration data from the FCC (for approximately the same period of 2001), CLECs (including IXCs) served about 15 percent of DSL lines, while according to the FCC, CLECs accounted for about 9 percent of total lines. This

indicates *an above-average propensity for CLEC voice customers to subscribe to DSL*. BellSouth proprietary data regarding DSL penetration for its smaller business customers, which I reviewed, showed that as of August 2003, there was penetration ***[redacted]***.

Moreover, Cahners In-Stat suggests that DSL revenues will increase by 54 percent per year through 2005. (Cahners In-Stat, "U.S. Residential DSL Market Continues to Grow," October 2001, p. 2.) The robust growth potential applies to small businesses as well. As long ago as 1999, firms with 1-4 telephone lines, 47.8 percent had access to the Internet through dial up or high-speed means. (U.S. Small Business DSL Services Market Assessment and Forecast, 1998-2003, International Data Corporation, October 1, 1999, p. 12) This represents a growing opportunity for CLECs to market broadband services. Thus, Dr. Bryant's anemic penetration estimate simply does not reflect the current and future potential for these data services.

Q. DOES DR. BRYANT UNDERPRICE THE ASSUMED DSL SERVICES?

A. Yes, he does. Dr. Bryant assumes that residences pay $35 extra per month for DSL service from his modeled CLEC. While DSL is certainly available at approximately $35, one might expect that a reasonably efficient CLEC could offer

additional DSL-related products, or "vertical services," just as BellSouth does. For example, in addition to a $39.95 DSL offering, BellSouth offers a home networking option ($10.00), a parental controls/firewall ($6.95), web remote access ($4.95), and a static IP address ($14.95). While not all DSL customers will take some or all of these options, some customers will take one or more. The ability to sell customers additional, useful features increases the revenue opportunity, and, I understand, actual revenue, from DSL service. I do not believe that Dr. Bryant's assumed DSL price adequately accounts for such, or other, vertical revenue opportunities associated with DSL service.

The availability of other revenue opportunities is evidenced in the market. For example, my research indicates that while "lite" packages are available for less, higher speed DSL service is available for residential customers for about $45 to $50 from a variety of carriers in Tennessee (including Covad TeleSurfer PLUS Residential, BellSouth DSL FastAccess, and AT&T Preferred DSL). For SOHO businesses, DSL service is available for nearly $50 from BellSouth, nearly $70 from Sprint, and it is also available for substantially more (such as $79.95 from BirchNet DSL, EarthLink Small Office, and for $99.95 from AccessPoint, Inc.). Hence, my recommendation of $47 for *à la carte* residential and SOHO business customers for the BACE model is both reasonable and conservative, while Dr. Bryant's proposal is unreasonably low and is not reflective of revenues available in the market, as is required by the TRO. I would note that the BACE model also incorporates DSL in packages and applies prices for those packages based on the

bundle prices currently available from CLECs in the market. Dr. Bryant does not explicitly incorporate bundles into his model at all.

Q. DO YOU AGREE WITH DR. BRYANT'S ASSUMPTIONS REGARDING OVERALL PENETRATION?

A. No. Dr. Bryant assumes a static CLEC market share of 5 percent. (Bryant Direct p.87.) While a penetration rate of 5 percent may be reasonable for a growing CLEC early in its life, it is not appropriate as an ultimate penetration rate. Nevertheless, there is no way of knowing in MCI's model whether one should interpret the 5 percent as the "average" penetration over an (unspecified) period of time, whether it is a "steady state" ultimate penetration (and the penetration rates leading up to it are ignored), whether it is the assumed penetration in the first or second year of operation, or some other interpretation.

A new CLEC may start with a penetration of zero, and will increase its penetration over time. (Indeed, an efficient CLEC may start with a higher penetration rate if it has existing UNE-P customers.) To be conservative, the BACE model explicitly assumes that a CLEC starts with no customers and grows toward its ultimate penetration of 15 percent (though never quite achieves it) over a ten-year period. Dr. Bryant's penetration assumption could be consistent with many ultimate penetration rates, including my recommended 15 percent penetration rate achieved over a period of time, but these dynamics are entirely unspecified in the NRRI

approach. What is clear is that 5 percent is unreasonably low as an estimate of the ultimate penetration rate for an efficient CLEC.

There are a number of reasons that Dr. Bryant's 5 percent market share estimate is unreasonable as an ultimate penetration rate. First, as I explained in my direct testimony, it has already been demonstrated that CLECs can achieve significantly higher rates of penetration. AT&T has achieved 15 percent in New York, and Cox Communications has achieved 19 percent penetration of the telephone-ready homes in its geographic footprint around the nation, and 53 percent of its existing cable TV customers in its Orange County (California) footprint.

Moreover, Dr. Bryant himself explains that UNE-L based providers will be more aggressive in expanding their market shares than would UNE-P providers. As Dr. Bryant explains, facilities-based CLECs are "under pressure to recover sunk costs by increasing volume." (Bryant Direct 81.) Aside from "sunk cost" concerns, facilities investments create some scale economies, which induce efficient CLECs to increase volume to leverage those economies of scale. Indeed, increasing its customer base allows the CLEC to exploit the efficiencies available to a facilities-based provider. Hence, an efficient facilities-based provider will necessarily operate at a scale that exploits its scale economies in equilibrium.

Finally, in order to appropriately interpret the 15 percent penetration assumption, it is useful to recall that the market share numbers reported in many public venues

(including the FCC reports) are at the level of large geographic areas such as an entire state. A carrier that has, say, a 2 percent market share in a state would have a far higher share in the specific geographic markets in which it operates. A carrier that has a 5 percent share in a metropolitan area would also have a much higher market share in its geographic market if it served only part of that metropolitan area. The penetration rate of the BACE model applies only to the penetration of the narrowly defined geographic markets in which it operates, not to the average penetration of an entire state or MSA (which would obviously be lower as a consequence of the markets which the CLEC does not serve).

For example, suppose a particular MSA has three zones, each with equal numbers of customers. If a CLEC operates only in zone 1 and obtains 15 percent of the market there, then it would be calculated to have 5 percent of the MSA. Looked at differently, if carriers are observed to obtain 5 percent of an MSA, they may well be capturing a far higher percentage of the subset of the market in which they operate.

III. RESPONSE TO MR. TURNER

Q. WHAT COMMENTS DO YOU HAVE ON MR. TURNER'S TESTIMONY?

A. The main comment I have is that Mr. Turner's approach, as it stands, is useless to address the FCC's definition of impairment. Mr. Turner's theory of impairment

was considered and explicitly rejected by the FCC. Mr. Turner's approach does not address the question of whether an efficient CLEC economically could enter a market without access to a particular unbundled element (which is the essence of the FCC's impairment definition, e.g., see TRO ¶ 84), and so it provides no economically useful information to the TRA, and should be disregarded.

Q. WHAT DO YOU MEAN THAT MR. TURNER'S APPROACH DOES NOT ADDRESS "IMPAIRMENT"?

A. Mr. Turner's theory of impairment is that CLECs are impaired because (he claims) they have higher costs than does the ILEC. (Turner Direct 4-5.) His impairment analysis computes the supposed cost disadvantages, relative to the ILEC, faced by a CLEC that seeks to self-provision switching to serve mass-market customers. (Turner Direct 5-7.) Cost disparities, however, are not determinative of whether entry is "economic," which is the basis of the FCC's definition of impairment. Costs are relevant only within the context of a well-defined business case analysis that evaluates whether entry by an efficient CLEC is economic, and whether CLECs incur costs that are not incurred by ILECs is not determinative of impairment. In fact, as the FCC recognized (TRO ¶ 112), entry by an efficient CLEC may be "economic" without access to the unbundled element even when the CLEC suffers from a cost disadvantages. In real markets (as well as in many standard economic models of competition), firms with different costs coexist in competition with one another, and such competition is sustainable and viable for

the firms. A sound business case analysis considers not just costs, but also the revenues that an efficient CLEC reasonably could attract and, as I mentioned, any countervailing advantages that the CLEC might enjoy, such as the ability to target geographic areas or customers within those areas, and "second-mover" advantages such as the ability to create a lower-cost network topography or use more flexible or powerful switches. An approach that seeks only to demonstrate a cost disadvantage cannot determine whether competitive entry is "economic" and so does not address the essential issue of the FCC's impairment definition.

As I noted, approaches such as Mr. Turner's, which focus on absolute cost disadvantages, were reviewed and rejected by the FCC during the Triennial Review proceeding. The FCC concluded, "We reject the proposal to find impairment whenever entrants would suffer from a substantial cost disadvantage (such as five percent), regardless of whether entry is still possible." (TRO ¶ 112.) The FCC requires that "cost factors listed should not be considered in isolation, but only in the context of a broad business case analysis that examines all likely potential costs and revenues." (TRO fn. 1581. See, also fn. 1497.) The FCC specifically directs states "not [to] focus on whether competitors operate under a cost disadvantage. [Rather,] [s]tate commissions should determine if entry is economic by conducting a business case analysis for an efficient entrant." (TRO fn. 1579.) The FCC also correctly noted that a cost disadvantage standard, such as Mr. Turner's, would focus on maximizing entry to the detriment of the other goals of the Act, such as innovation, deployment of new technologies, and reduced regulation. (TRO ¶ 112.)

The Supreme Court also rejected the theory that demonstrating a cost disadvantage is sufficient to prove impairment. The Court explained that a CLEC that was able to operate profitably without access to an unbundled element could not argue that it was impaired on the grounds that it would be even more profitable with access to the element. (*AT&T* et al. *v. Iowa* et al. 13-14.) Nor can a CLEC claim impairment by noting that its costs would increase in the absence of access to the UNE. (*AT&T* et al. *v. Iowa* et al. 14) Indeed, Mr. Turner's comments are based on an approach that expressly is rejected as unreasonable by the Court. As a result, the FCC's rules were vacated by the Court, and the FCC, in the TRO, established an impairment test based on the economics of entry, not on cost differentials or cost increases.

Mr. Turner admits that his analysis is not determinative of whether a CLEC has an economic business case in any geographic market, and that he has not performed any analysis to determine whether it could have a positive business case. Specifically, in discovery in Florida, where Mr. Turner sponsored the same analysis, Mr. Turner responded with an unqualified "no" to the following question: "Has any analysis, study, or evaluation been conducted by, on behalf, or at the direction of AT&T to determine whether a CLEC providing a qualifying service via the UNE-L can make a positive return on investment in any wire center or combination of wire centers? If the answer to this Interrogatory is in the affirmative, identify all documents referring or relating to such analysis, study or evaluation." (AT&T Response to BellSouth Florida Interrogatory 4-162.)

Q. IS IT LEGITIMATE TO CONSIDER THE COSTS OF AN EFFICIENT CLEC?

A. Yes, it is, if these costs are considered in the proper analytical framework. As the FCC explained (TRO ¶ 77), this framework is a fully developed, "net present value" business case that considers revenues, as well as costs, and countervailing advantages that the CLEC might enjoy. A business case evaluates the CLECs' costs relative to its revenues, not relative to the ILEC's costs. Mr. Turner's analysis is in no way a business case and therefore is not helpful to the TRA.

IV. RESPONSE TO MR. WOOD

Q. SHOULD THE TRA REJECT MR. WOOD'S PROPOSAL TO REPUDIATE THE USE OF AN ECONOMIC IMPAIRMENT ANALYSIS TO IDENTIFY GEOGRAPHIC MARKETS WHERE IMPAIRMENT DOES NOT EXIST? (WOOD DIRECT 5-6.)

A. Yes, it should reject Mr. Wood's proposal. Mr. Wood argues that an economic analysis may be useful as a way to identify factors that contribute to impairment, but that the TRA should not use a business case analysis to determine whether impairment exists. Mr. Wood argues that a business case analysis that does not demonstrate "impairment" is inherently flawed because many CLECs have tried

and failed to implement UNE-L over the past 7 years. Mr. Wood therefore concludes that "impairment" is obvious. I interpret this testimony to imply that Mr. Wood urges the TRA to simply disregard the potential deployment component of the FCC's impairment methodology as part of its determination of the geographic markets in which BellSouth can be relieved of the unbundled local switching obligation, on the grounds that he already knows what the answer should be. (Wood Direct 5.)

Clearly, this is not what the FCC appeared to have in mind when it wrote 51.319(d)(2)(iii)(B). This rule requires states to evaluate potential deployment as part of their impairment assessments if neither switching trigger is met. The FCC's rule clearly requires a state commission to evaluate the bright-line triggers tests, and then, in instances where the triggers are not met, to nevertheless find that requesting carriers are not impaired without access to the local switching UNE where it finds that self-provisioning of switching is economic. As a matter of logic, the fact that the FCC includes the potential deployment test must be understood to imply that the FCC considers it possible to demonstrate lack of impairment thereby. The FCC's rules recognize that if the triggers are not satisfied in a market, that does not necessarily imply that CLECs could not economically do business there with UNE-L if unbundled switching were unavailable. There is no doubt that the existence of UNE-P affects the desirability and viability of pursuing a UNE-L strategy.

CLECs may opt to use UNE-P rather than UNE-L when the former provides the CLEC with a greater profit opportunity, or greater flexibility, than the latter. However, greater (or lesser) profitability is not the standard that the FCC requires for an evaluation of impairment. As I noted earlier, the FCC's standard of impairment is whether an efficient CLEC could economically enter the market without access to the unbundled element. (TRO ¶ 84.) The FCC's trigger's tests are asymmetric tests of impairment: satisfying the triggers tests demonstrates lack of impairment, but failing them does not demonstrate impairment. If there is "multiple, competitive supply" (TRO fn. 283) (as indicated by the triggers tests), an efficient CLEC clearly is not impaired without access to the unbundled element. Thus, passing a triggers test clearly indicates that there is no impairment. But, if there is not multiple, competitive supply currently in the market, this does not mean that competitors would be unable to enter the market without access to the UNE. As I mentioned, CLECs might use UNE-P instead of UNE-L because it promises greater profits, not because it uniquely resolves the market entry problem. As FCC Chairman Powell noted, "[A]n honest inquiry into this area [of impairment analysis using the triggers] must recognize what the record amply demonstrates: there is a correlation between the availability of UNE-P and the failure of competitors to utilize their own switching capacity." (TRO Powell Separate Statement, page 6.) A well-structured business case analysis can help identify those areas where CLECs are not impaired, even when neither trigger test is satisfied.

Q. ARE THE PAST 7 YEARS THEMSELVES INDICATIVE OF IMPAIRMENT, AS CLAIMED BY MR. WOOD? (WOOD DIRECT 5.)

A. No. First, Mr. Wood seems to argue that the triggers tests will demonstrate that CLECs are not serving mass-market customers using their own switches. (Wood Direct 5.) Mr. Wood's entirely unsupported and conclusory rhetoric aside, he provides no evidence that CLECs have experienced impairment in the specific geographic markets that are at issue in this proceeding, and admits in discovery that he performed no economic impairment analysis, study, or evaluation of impairment associated with local switching. (AT&T Response to BellSouth Florida Interrogatories 4-152 and 4-153.)

Second, even in those instances where the triggers are not met, CLECs are not necessarily impaired, as the FCC has clearly recognized in its Rule requiring a potential deployment analysis. As I have discussed, one reason that CLECs are not necessarily impaired in geographic markets where the triggers are not met is that the availability of UNE-P itself affects CLECs' business decisions. The availability of UNE-P where there is no impairment provides a convenience for CLECs, as noted by Chairman Powell in his Separate Statement to the TRO. Even when UNEs are priced based on cost, CLECs may well have the incentive to use UNE-P, rather than make their own investments, even in many areas for which there is no genuine impairment. Moreover, the availability of UNE-P to other CLECs in areas where there is no genuine impairment damages the business cases

of those CLECs that otherwise would invest in their own switching. In sum, the forward-looking risks and potential profits of an efficient CLEC, rather than a retrospective review of CLEC successes and failures in a world of ubiquitous UNE-P availability, is the relevant indicator of impairment.

Q. IS IT TRUE, AS MR. WOOD ASSERTS, THAT "AN EFFICIENT CLEC THAT EXPERIENCES A COST DISADVANTAGE CANNOT COMPETE ON PRICE OVER TIME, AND THEREFORE CANNOT PRUDENTLY INVEST IN ASSETS WHOSE COSTS CAN ONLY BE RECOVERED OVER AN EXTENDED PERIOD OF TIME"? (WOOD DIRECT 11.)

A. No. Both in theory and in fact, competition can be viable when competitors have varying levels of costs, and one would be hard-pressed to explain much of the real world if one insisted on a worldview that permits the survival only of competitors with identical costs. The claim that a cost disadvantage renders a firm incapable of competing effectively and viably in a market is simply inconsistent with much of modern economic theory, which provides a number of models in which firms with different cost structures providing identical products viably coexist. The notion that competition cannot accommodate heterogeneity in costs reflects a shallow understanding of the richness of economic models of competition.

Moreover, efficient CLECs need not compete only on price, but can compete by differentiating their products from their rivals and earn a premium from those customers who value the specific product characteristics offered by the CLEC.

Q. MR. WOOD ARGUES THAT REVENUES NEED NOT BE CONSIDERED BECAUSE THE SAME REVENUE POTENTIAL EXISTS FOR BOTH ILEC AND CLEC, SO THAT THE ONLY ISSUE IS COSTS. PLEASE COMMENT. (WOOD DIRECT 10-11.)

A. Mr. Wood is incorrect on at least two grounds. First, as a matter of economic principle, if the revenue potential is the same for two firms, a cost difference nevertheless does not necessarily render the higher cost firm uneconomic, as I just explained. Second, Mr. Wood is incorrect that CLECs and ILECs necessarily face the same revenue potential. One of the advantages of a CLEC is the ability to target high-profit customers, and ignore unprofitable ones. My own analysis indicates that this "cream skimming" is occurring in the BellSouth-served territories. Mr. Wood's entire approach, besides being rejected as probative by the FCC, is based on a flawed premise.

V. RESPONSE TO MR. GILLAN

Q. PLEASE COMMENT ON MR. GILLAN'S ASSERTION THAT ABOUT 80 PERCENT OF THE UNE-BASED LOCAL COMPETITION IN TENNESSEE IS "DEPENDENT ON UNE-P." (GILLAN DIRECT 10.)

A. Mr. Gillan presumes the outcome of this proceeding. The purpose of this proceeding is to determine those markets in which an efficient CLEC, executing the most efficient business model, could economically enter and serve a particular market *without access to unbundled local switching*. In instances where this occurs (as in the case of the triggers tests) or where it is likely to be economic (in the case of the potential deployment test), the efficient CLEC is not "dependent upon UNE-P." Mr. Gillan seems to be arguing that all of the lines thus far served by UNE-P-based CLECs in areas where there is no genuine impairment would not be served by switch-based CLECs. That is simply unfounded speculation on his part.

Q. DOES MR. GILLAN ARGUE THAT THE TRA SHOULD NOT REMOVE A NETWORK ELEMENT BASED ON A POTENTIAL DEPLOYMENT ANALYSIS? (GILLAN DIRECT 17-18.)

A. Yes, I believe he does. Like Mr. Wood, Mr. Gillan argues that a potential deployment analysis can indicate why impairment exists, but that it would not be "reasonable" for the TRA to remove a network element unbundling requirement based on a potential deployment analysis. (Gillan Direct 17-18.) Hence, like Mr. Wood, Mr. Gillan would have the TRA ignore the plain language of the federal

rules. I believe that this is misguided for the reasons I discussed in my response to Mr. Wood's recommendation. Nothing in the FCC's discussion or its rules even hints at this ill-conceived proposal. Rather, the FCC is very explicit that states must first examine the bright-line triggers tests and then they must consider whether an efficient CLEC could economically provide mass-market service without access to the unbundled switching UNE. This is one way of addressing Chairman Powell's concern that CLECs use UNE-P even in instances where there is no genuine impairment. Mr. Gillan's undisciplined advocacy should be rejected.

Q. MR. GILLAN ARGUES THAT UNE-P ENCOURAGES INVESTMENT. (GILLAN DIRECT 55-57.) PLEASE COMMENT.

A. Mr. Gillan's opinions and conjecture on this are irrelevant to any determination of "impairment" under the FCC's rules. The FCC clearly states that facilities-based competition serves the public policy goal of innovation. (TRO fn. 233.) Moreover, removal of unbundling obligations is not optional if the impairment test fails. It is mandatory. The public policy considerations weighing any pros and cons of unbundling already are incorporated in the provisions of the Act itself.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes it does.

ADDITIONAL UNIMPAIRED MARKETS IN TENNESSEE			
UNE Zone	**CEA**	**Net Present Value**	**NPV for Mass Market**
Zone1	Clarksville-Hopkinsville TN-KY	1,198,024	404,051
Zone1	Jackson TN	573,623	105,991
Zone1	Knoxville TN	7,942,449	1,564,013
	TOTAL:	**9,714,096**	**2,074,055**
OTHER UNIMPAIRED MARKETS IN TENNESSEE			
Zone1	Chattanooga TN-GA	4,179,789	177,005
Zone1	Memphis TN-AR-MS-KY	18,106,020	7,386,219
Zone1	Nashville TN-KY	17,254,403	6,453,374
	TOTAL:	**39,540,212**	**14,016,598**

CUSTOMER ACQUISITION ("SALES") COSTS OF AT&T AND OF CLECS THAT MARKET TO MASS-MARKET CUSTOMERS

	Source	
Z-Tel (Management target)	(1)(2)	$50
Z-Tel (Actual 2001 Q2)	(2)	$60 - $70
Z-Tel (Actual 2001 Q3)	(1)	$100 - $120
Z-Tel (Actual 2001 Q4)	(3)	$60
Talk America (Estimate of actual experience)	(4)	$80
AT&T (Estimate of actual experience)	(5)	$125

Sources:

(1) James J. Linnehan, "Z-Tel Technologies, Inc. – Market Perform.: Still Chugging Along," Thomas Weisel Partners Merchant Banking, November 8, 2001, p. 3. (This figure excludes television advertising.)

(2) James J. Linnehan, "Z-Tel Technologies, Inc. – Market Perform," Thomas Weisel Partners Merchant Banking, August 13, 2001, p. 3.

(3) Gregory Smith, CEO and Chairman of Z-Tel, Transcript of Z-Tel Fourth Quarter 2001 Earnings Results conference call by Fair Disclosure Financial Network, February 28, 2002.

(4) Vik Grover, "Raising Numbers Again," Kaufman Bros. Equity Research (KBRO Kaufman Bros. L.P.), April 30, 2003, p. 1. See, also, Josephine Shea, "Talk America Holdings, Inc." Morgan Joseph High Yield Research, May 27, 2003, p. 1.

(5) David W. Barden, "AT&T Corporation: A Case for Consumer Services," Banc of America Securities—United States Equity Research, April 30, 2003, p. 20.

IMPLICATION OF ESTIMATED PER LINE SALES EXPENSES FOR THE BACE MODEL BUSINESS CUSTOMER SEGMENTS

	BACE Estimate (per Line)	Company and Per Line Sales Expense		
		MPower	ChoiceOne	Allegiance
SOHO	$259	N/A	N/A	N/A
SME/A	$284	N/A	N/A	N/A
SME/B	$225	N/A	N/A	N/A
SME/C	$195	N/A	N/A	N/A
Average	N/A	$309-343	$170	$188

Notes and Sources:

Mpower estimate is based on company's reported customer acquisition costs and LECG estimate of gross line additions (i.e., gross adds = net adds + (avg. lines * 2% monthly churn rate)).

ChoiceOne estimate is Steve Dubnik, Chairman and CEO "Choice One Communications Q1 2002 Earnings Call," Fair Disclosure Financial Network, May 9, 2002, p. 8. (transcript).

Allegiance is estimated as 30% of SG&A expenses / estimated gross line adds (net adds + (avg. lines * 2% monthly churn rate)), where the 30% is estimated based on Peter DiCaprio *et al*., "Allegiance Telecom, Inc. – Q4 Preview - Operating Leverage Cometh" Thomas Weisel Partners Report, February 19, 2002, p. 7.