COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

Review of the Federal Communications Commission's Triennial Review Order Regarding Unbundling Requirements for individual Network Elements	))))	Case No. 2003-00379

DIRECT TESTIMONY OF MARK DAVID VAN DE WATER

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

FEBRUARY 11, 2004

PUBLIC VERSION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Mark David Van de Water. My business address is 7300 East Hampton Avenue, Room 1102, Mesa, AZ, 85208-3373.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE IN THE TELECOMMUNICATIONS INDUSTRY.

A. I hold a Bachelors of Arts in Psychology and a Masters of Arts in Organizational Management. I am employed by AT&T, operating in Kentucky as AT&T of the Southern States, LLC ("AT&T"). For the past 5 years I have worked in the Local Services and Access Management organization of AT&T with responsibility for negotiating and implementing operational support system ("OSS") requirements and interfaces, and for resolving operational issues between AT&T Local Services and Southwestern Bell Corporation ("SBC"). In particular, I participated with SBC in formalizing their documented coordinated and uncoordinated unbundled network element-loop ("UNE-L") with local number portability ("LNP") hot cut processes. During 2003, I negotiated with SBC, on a business-to-business basis, to create a process by which AT&T is able to convert multiple unbundled network element-platform ("UNE-P") customers to UNE-L. A trial is currently being conducted of this process. Further, this process is the foundation of SBC's current "batch" hot cut proposal presented throughout its 13-state region. Before this assignment, I worked for over 16 years at Western Electric Company in various positions.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE REGULATORY COMMISSIONS?

A. Yes. I have testified before the California, Kansas, Missouri, Illinois, and Texas commissions in matters related to SBC's applications for in-region long distance authority under Section 271 of the Federal Telecommunications Act of 1996.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address the operational constraints associated with the hot cut process, to describe issues this Commission should consider in developing any bulk migration process for unbundled loops, and to recommend the parameters that should be included in any bulk migration process. My testimony covers four key areas in this proceeding.

First, I address the operational and economic barriers presented by the hot cut process. This section of my testimony explains the findings of the Federal Communications Commission ("FCC") in the Triennial Review Order ("TRO").[1] It summarizes the FCC's conclusions that competitive carriers are impaired without access to unbundled local switching as a result of economic and operational impairment due to the hot cut process and describes the FCC's directions to state commissions to approve and implement a batch loop migration process.

Second, I describe the specifics of the current hot cut process and AT&T's experience with hot cuts in the BellSouth region. My testimony summarizes why AT&T's experience led it to choose UNE-P to provide local service and describes specific concerns related to BellSouth's performance of hot cuts.

Third, I describe the challenges that must be addressed in implementing any batch loop migration process. I address the volume of hot cuts that will be required and the evaluation standards by which any batch migration process should be considered. My testimony discusses the number of UNE-L hot cuts that should be expected if unbundled

[1] *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, In the matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Federal Communications Commission, CC Docket No. 01-338, Released August 21, 2003 (hereafter referred to as the "Triennial Review Order" or "TRO")

local switching is no longer available and the segments of the market that pose unique challenges for development of a bulk migration process. My testimony also addresses new operational constraints that will arise if customer conversions require migration of a loop because unbundled local switching is no longer available to Competitive Local Exchange Carriers ("CLECs").

Fourth, my testimony includes recommendations for a batch hot cut process. Because CLECs have restricted insight into the operations of the Incumbent Local Exchange Carrier ("ILEC"), this recommended process addresses the parameters of a reasonable batch migration process. Development of a batch hot cut process rests primarily with the ILECs, in cooperation with the CLECs. Further, while my testimony points out the advantages of its recommended process, it also illustrates why no manually based process is capable of ensuring the seamless, low cost migration of loops that is required by the TRO and is equivalent to the ease and efficiency with which customers are migrated today when changing LD carriers and when using the unbundled network element platform.

I. BACKGROUND: THE OPERATIONAL AND ECONOMIC BARRIERS PRESENTED BY THE CURRENT HOT CUT PROCESS

Q. WHAT IS A HOT CUT?

A. When a mass-market (residential and small business) customer seeks to move his or her local service from one switch-based carrier to another, the connection between the customer's analog loop and the original carrier's switch must be broken and a new connection must be established between that analog loop and the new carrier's switch. Because the customer's loop is lifted or "cut" while it still provides active service to a customer (i.e., the loop is "hot"), the process used to transfer analog loops has become

known as a "hot cut." The hot cut process involves two separate changes to the customer's service that must be coordinated to occur at approximately the same time: (1) the manual transfer of the customer's analog loop from one carrier's network to another's (the loop cut); and (2) the porting of the customer's telephone number (including the associated software changes and the disconnection of the original carrier's switch translations), so that inbound calls to the customer can be routed to the new carrier's switch using the customer's existing telephone number.

Q. DOES A HOT CUT CAUSE THE CUSTOMER TO LOSE SERVICE?

A. Yes. This occurs in two ways. The first is a complete loss of dial tone. From the time the customer's analog loop is disconnected from the ILEC's switch until it is reconnected to the CLEC's switch, the customer has no dial tone and is completely out of service. Second, from the time the customer's analog loop is reconnected to the CLEC's switch until the customer's number is successfully ported to the CLEC's switch, the customer cannot receive any incoming calls. That is because, until the appropriate change message is received by the Number Portability Administration Center ("NPAC"), the NPAC database indicates that calls should be routed to the ILEC's switch. If someone calls the customer and the calls are sent to the ILEC's switch after the customer's analog loop has been physically moved, the call will not complete and the caller will be unable to reach the customer.

Q. HOW DID THE FCC ADDRESS THE ISSUE OF HOT CUTS?

A. In short, it concluded that hot cuts cause impairment. In the TRO**,** the FCC reviewed substantial data and descriptions of this hot cut process provided by both ILECs and CLECs and found, on a national basis, that competing carriers providing voice service to mass

market customers are impaired without access to unbundled local circuit switching. TRO ¶ 459. This finding was based in part on clear evidence regarding the economic and operational barriers caused by the hot cut process. *Id*. *See also* ¶ 473 ("Our national finding of impairment is based on the combined effect of all aspects of the hot cut process on competitors' ability to serve mass market voice customers.") The FCC recognized that "whether a customer was previously being served by the competitive LEC using unbundled local circuit switching [i.e., using UNE-P], or by the incumbent itself, a hot cut must be performed" [if unbundled local switching is no longer available]. *Id*.¶ 465.

Q. DID THE FCC MAKE SPECIFIC FINDINGS?

A. Yes. The FCC found:

> "[H]ot cuts frequently lead to provisioning delays and service outages, and are often priced at rates that prohibit facilities-based competition for the mass market. The barriers associated with the manual hot cut process are directly associated with incumbent LECs' historical local monopoly, and thus go beyond the burdens universally associated with competitive entry. Specifically, the incumbent LECs' networks were designed for use in a single carrier, non-competitive environment…" Id. ¶ 465.[2]

The FCC recognized that, as a result, "for the incumbent, connecting or disconnecting a customer is generally merely a matter of a software change. In contrast, a competitive carrier must overcome the economic and operational barriers associated with manual hot cuts." *Id* . (citations omitted).

Upon review of the evidence, the FCC concluded that the economic and operational barriers of the hot cut process include "the associated non-recurring costs, the potential for disruption of service to the customer, and our conclusion, as demonstrated by the record, that

[2] For a full discussion of the impairments created by the incumbents' current network architecture, see the Direct Testimony of AT&T Witness Jay Bradbury.

incumbent LECs appear unable to handle the necessary volume of migrations to support competitive switching in the absence of unbundled switching." *Id.* ¶ 459. The FCC further concluded that "[t]hese hot cut barriers not only make it uneconomic for competitive LECs to self-deploy switches specifically to serve the mass market, but also hinder competitive carriers' ability to serve mass market customers using switches self-deployed to serve enterprise customers." *Id.*

Q. HOW DID THE FCC PROPOSE TO ADDRESS THESE PROBLEMS?

A. The FCC found that "[c]ompetition in the absence of unbundled local circuit switching requires seamless and timely migration not only to and from the incumbent's facilities, but also to and from the facilities of other competitive carriers." TRO ¶ 478 (citations omitted). Having reached this conclusion, the FCC indicated that "loop access barriers contained in the record ***may*** be mitigated through the creation of a batch cut process . . . ." TRO ¶ 487 (emphasis added). The FCC then directed state commissions to approve and implement a batch process that attempts to address the economic and operational barriers caused by hot cuts, or make detailed findings why such a process is not necessary in a particular market. *Id.* ¶ 488; *see also* ¶ 423. The FCC identified issues that must be addressed by any batch hot cut process developed, *id.* ¶ 489, and outlined the detailed findings that must be made if a state commission declines to institute a batch hot cut process for a particular market. *Id.* ¶ 490.

Critically, however, the FCC recognized that even after such a process is implemented, competitive carriers may still face barriers associated with loop provisioning -- even problems arising from newly improved cutover processes -- that may continue to be a significant barrier to competitive entry into the mass market. *Id.* ¶ 512. The FCC asked state

commissions "to consider more granular evidence concerning the incumbent LEC's ability to transfer loops in a timely and reliable manner." *Id*. Some of the evidence the FCC suggested commissions should consider includes "commercial performance data . . . and the existence of a penalty plan with respect to the applicable metrics" and "whether the incumbent's facilities, human resources, and processes are sufficient to handle adequately the demand for loops, collocation, cross connects and other services required by competitors for facilities-based entry into the voice market." *Id.*

II. OPERATIONAL AND ECONOMIC IMPACTS WHEN USING UNBUNDLED LOOPS: WHY AT&T USES UNE-P RATHER THAN UNBUNDLED LOOPS

Q. HOW IS AT&T CURRENTLY SERVING MASS MARKET CUSTOMERS IN BELLSOUTH TERRITORY?

A. AT&T is currently acquiring virtually all of its mass market (residential and small business) customers using the Unbundled Network Element Platform ("UNE-P"). For example, from January through June 2003, BellSouth has only completed *** Begin Confidential [redacted] End Confidential *** hot cut orders for AT&T for the entire nine-state BellSouth region. Below are the numbers of hot cut orders by month and the number of UNE-P orders per month.

*** Begin Confidential

Month	UNE-P Orders	Hot Cut Orders
January, 2003	[redacted]	[redacted]
February, 2003	[redacted]	[redacted]
March, 2003	[redacted]	[redacted]
April, 2003	[redacted]	[redacted]
May, 2003	[redacted]	[redacted]
June, 2003	[redacted]	[redacted]

From BellSouth's BellSouth Performance Measurement and Analysis Platform ("PMAP')

End Confidential ***

Further, according to PMAP's Customer Trouble Report Rate reports, as of November 2003, while AT&T had under *** Begin Confidential [redacted] End Confidential ***UNE-L lines in service in BellSouth territory, it had over *** Begin Confidential [redacted] End Confidential ***UNE-P lines in service.

Q. HAS AT&T USED METHODS OTHER THAN UNE-P TO PROVIDE SERVICE TO MASS MARKET CUSTOMERS?

A. Yes. As noted above, AT&T has served a limited portion of the small business market using an unbundled loop from BellSouth with an AT&T owned switch using the hot cut process. Significant cost and operational provisioning problems that occurred even at these low volumes of hot cuts, however, caused AT&T to virtually eliminate UNE-L as a means of acquiring customers.

Q. DID AT&T EXPERIENCE THE HOT CUT IMPAIRMENTS FOUND BY THE FCC?

A. Yes. As confirmed by the FCC, AT&T's experience was that the hot cut process frequently led to provisioning delays and service outages that led to an untenable level of customer dissatisfaction. Naturally, this dissatisfaction was directed at AT&T as the retail provider of the service, not BellSouth, the underlying wholesale provider. In particular, BellSouth's provisioning delays included its substandard performance in returning timely firm order confirmations, its failure to provide a reliable schedule for performing hot cuts, and its failure to notify AT&T consistently and timely that customer loops had been transferred to AT&T, so that AT&T could complete the final steps necessary to port the

customer's telephone number to ensure the customer could receive incoming calls.[3] Factors that contributed to customer service outages included BellSouth's erroneous disconnection of end users' lines and, when erroneous disconnections occurred, undue delay in reconnection. In addition, BellSouth's high charges for hot cuts make facilities-based competition using UNE-L for mass market customers uneconomic.

Q. GIVEN THESE PROBLEMS, WHY DOES AT&T CONTINUE TO USE HOT CUTS AT ALL?

A. AT&T has existing business customers that it serves using its own switch and unbundled analog loops dating back to the time when AT&T was using UNE-L to provide local service. When these customers wish to change their service by adding lines or migrating additional lines from the ILEC, AT&T will continue to use UNE-L to satisfy this request. Additionally, when a large customer migrates more lines to AT&T than can be provisioned on a single DS1, but less than can economically be provisioned on two DS1's, AT&T will provide service to this customer by using a DS1 loop, and unbundled analog loops for the additional lines that could not be supported on the DS1.

AT&T follows this practice because it maintains separate processes and databases for its customers served via loop facilities and its customers served via UNE-P. Having all of a customer's lines provisioned using the same network configuration allows AT&T to provide more efficient and effective on-going customer service, maintenance, and repair. AT&T does not actively market analog services to small business mass market customers using a UNE-L strategy, due to the provisioning problems and the high costs of hot cuts and

[3] Timely firm order confirmations are essential to communicate when the order is to be provisioned so that number porting activities can began and service migration can be confirmed with the customer. Late firm order confirmations also cause the customer's order to be delayed past the times originally requested by the customer.

backhaul costs, *i.e.*, the costs of extending the loop from the ILEC central office to AT&T's switch.

Q. HOW DOES THE HOT CUT PROCESS DIFFER FROM PROVIDING SERVICE USING UNE-P?

A. UNE-P is a simple process that is ordered and provisioned electronically. With UNE-P, there should be no need to perform physical work in the ILEC's central office or outside loop plant to migrate an existing ILEC customer to a CLEC that is providing service using UNE-P. The migration from ILEC-retail to CLEC-UNE-P service only requires the ILEC to perform software changes. Thus, there is little chance for error and the customer does not have to lose service during the migration, because the service, both before and after the change, is being provided through the use of the ILEC's switch. This eliminates the need for a physical transfer of the customer's loop, as well as the need to port the customer's telephone number to another switch. Consequently, this service is almost always provided to the customer very quickly.

A hot cut, in sharp contrast, is a complex, highly manual process. It requires significant coordination between both the ILEC and a CLEC. Both carriers must perform multiple tasks in the hot cut ordering and provisioning processes, and both parties must coordinate these operations in the proper, agreed-upon sequence. If the many steps of the hot cut process are not performed in that exact sequence -- and properly coordinated between both carriers -- and if the ILEC does not complete its downstream processes correctly and timely, the customer will experience a service outage that is much longer than the unavoidable outage associated with this process.

Q. PLEASE DESCRIBE THE MAJOR STEPS IN MIGRATING A CUSTOMER FROM AN ILEC TO A CLEC USING UNE-P.

A. There are only a few significant steps involved in migrating a mass-market customer from the ILEC to a CLEC using UNE-P:

- After completing the sale to the customer, the CLEC accesses the ILEC's pre-ordering OSS in order to obtain the necessary customer information, such as the correct name and address. A CLEC agent enters this information into the CLEC systems to create the CLEC customer service record and establish the CLEC bill. The agent must take special care to ensure the information used by CLEC matches the ILEC's records in order to avoid an order rejection by the ILEC.
- The CLEC's agent prepares the Local Service Request ("LSR") and submits it electronically to the ILEC interface. The large majority of UNE-P migration orders can be processed by the ILEC without the need for any manual intervention by ILEC personnel. Thus, most UNE-P migration orders electronically flow-through the ILEC's OSS, and can be provisioned on a same day or next day basis.
- Upon receipt of the LSR, the ILEC electronically validates that the order is error-free, and electronically sends the CLEC a Firm Order Confirmation ("FOC").
- Upon receipt of the FOC, the CLEC updates its systems to reflect the due date of the order.
- Thereafter, the remaining processes are electronic. On the due date, which is typically the next day, the ILEC's OSS implement the order by making appropriate software changes that (i) transfer ownership of the account to the CLEC and establish wholesale billing to the CLEC for the customer and (ii) cause the ILEC's internal systems to send a final retail bill to the end user.
- When the CLEC receives the provisioning completion notice electronically from the ILEC, the CLEC closes out the order in its systems including such items as establishing the customer's new billing arrangement.[4]

For UNE-P, the migration process is electronic with little opportunity for human error. According to BellSouth's Response to AT&T Interrogatory 32 (see Exhibit MDV-1), with UNE-P migrations, over ninety percent (90.1 %) of orders flowed through completely electronically, eliminating opportunities for human error. However, only about twenty seven percent (27.1%) of UNE-L migration orders flowed through. (See BellSouth's response to

[4] If the customer has requested voicemail, the CLEC must also build and test the voice mailbox, if applicable.

AT&T Interrogatory No. 28, attached as Exhibit MDV-2.[5] Additionally, there is rarely a service interruption when a customer is migrated to a CLEC using UNE-P. After ordering service from a competitive carrier, the entire customer migration process is completely hidden from the end-user in a manner that makes changing local carriers as seamless as changing long distance carriers. These electronic processes are the rough equivalent of the Primary Inter-exchange Carrier "PIC" process that was developed to support the highly competitive long distance market.

Q. PLEASE DESCRIBE THE ADDITIONAL SIGNIFICANT STEPS OF MIGRATING A CUSTOMER FROM AN ILEC TO A CLEC USING A HOT CUT.

A. When a CLEC seeks to use its own switch to serve mass market local customers using a UNE-L architecture, the processes needed to change local carriers are much more complex, manual and costly than for UNE-P, requiring physical work to transfer the customer's analog loop from one carrier's switch to another's. For example, the CLEC must assign the customer to facilities in its switch and equipment; both the CLEC and the ILEC must conduct a series of number porting activities; and the ILEC must perform numerous manual provisioning and testing activities in its central office and sometimes in the field. Before the CLEC even submits an order for a hot cut, the CLEC must conduct the following activities in addition to those required for a UNE-P migration:

- The CLEC negotiates a due date with the customer based on the standard intervals for loop migrations that are lengthier than UNE-P intervals. For business customers, a cutover time must also be negotiated to ensure the service outage does not impact the operation of the customer's business.
- The CLEC conducts an inventory of facilities and electronically assigns the customer's loop to specific facilities in the CLEC's switch, to equipment located in CLEC-owned collocation space and to a Connecting Facility Assignment ("CFA")

[5] I used regional data for the UNE-L migrations, as Kentucky only had two orders.

that will be used by the ILEC to connect the customer's loop to the CLEC's collocated equipment.

- The CLEC accesses the ILEC's Loop Facility Assignment Control System ("LFACS") database to confirm that the availability of the CFA information in both companies' databases match.

After completing these activities, the CLEC prepares and submits the LSR. After submission of the LSR, the ILEC begins its activities.

- The ILEC checks its CFA database to ensure the CFA on the order matches its inventory.
- The ILEC issues the number portability "trigger" order by setting switch triggers which will ensure the customer receives intra-switch calls between the period of time the CLEC ports the number to its switch until the ILEC disconnects the telephone number in its switch.
- The ILEC inputs the order into its backend systems to create the internal service orders that will be needed to accomplish the migration.

Then the ILEC returns the FOC to the CLEC. Unlike UNE-P, after receiving the FOC, in a UNE-L migration the CLEC and the ILEC cannot rely on the electronic systems to flawlessly provision the service. Instead, the following complicated set of activities occurs, activities that must be coordinated if the cut is to be successful for the customer:

- The CLEC confirms with the customer the specific time and date when the hot cut is scheduled to take place based on the information in the FOC.
- The CLEC verifies that dial tone is being delivered from its switch to the CFA in the collocation cage.
- The CLEC alerts the National Number Portability Administration Center ("NPAC") that reprogramming is needed to move the customer's telephone number from the ILEC to the CLEC by sending an electronic "create" message to the Administrator. This begins the process of porting the customer's telephone number. This "create" message prompts NPAC to send a message to the ILEC to ensure the ILEC consents. The ILEC has eighteen (18) hours to respond.

After the CLEC completes these activities, the ILEC completes other activities necessary to a hot cut that are not required for a UNE-P conversion.

- The ILEC determines whether the facilities currently being used by the customer can be reused. For example, if the customer is on Integrated Digital Carrier Loop

("IDLC"), the facilities cannot be reused and spare non-IDLC facilities must be identified and assigned to this customer.

- The ILEC pre-wires the cross-connection frames.
- The ILEC confirms the presence of dial tone from the CLEC's switch on the cross-connects in the CLEC's collocation space.
- Upon receipt of the "create" message from NPAC, the ILEC will send a "concur" message back to NPAC.
- The ILEC verifies that the proper phone number is on the loop that is to be cut over.

After these activities, the ILEC contacts the CLEC to determine whether the cut can proceed as scheduled. During this call the ILEC may also provide essential information such as test results. Assuming nothing has gone wrong, on the day of the cut over, the ILEC and the CLEC will continue the following activities:

- The ILEC ensures it has the correct line for the cut.
- The ILEC verifies dial tone on the line at the ILEC Main Distribution Frame ("MDF").
- The ILEC monitors the line and, when idle, removes at the MDF the old cross connection jumper that connected the customer's loop to the ILEC's switch and terminates the pre-wired cross connection from the CLEC's CFA to the customer's loop.
- The ILEC provisioning center contacts the CLEC to advise that the conversion is complete.
- The CLEC then conducts its own tests to ensure that all lines have been successfully migrated.
- If testing is successful, the CLEC sends an "activate" message to NPAC advising that the customer's number should be ported to the CLEC's switch.
- The CLEC then calls the ILEC to accept the service.

The cut, however, is still not complete.

- Upon receipt of the activate message from NPAC, the ILEC completes the disconnect order and sends an "unlock" message for the E911 database administration to allow the CLEC access to the E911 database record for the ported number.
- Then the CLEC migrates the 911 record by updating the Automatic Location Indicator ("ALI") database to identify the CLEC as the local service provider. This ALI information supports the Public Safety Answer Point ("PSAP") that receives 911 calls.

- The ILEC must remove the old cross connections from its frame to free up the ILEC's switch port for another customer.

Only then is the hot cut complete. Not only are there significantly more steps involved in a hot cut, those steps must be coordinated if a cut is to be successful in limiting the time the customer is out of service.

To demonstrate the flow and order of activities, I have attached as Exhibit MDV-3 a process flow document for a hot cut. The first three pages show by numbered tasks the activities the ILEC must conduct to complete a hot cut. Page Four shows by lettered tasks, the activities the CLEC must complete. Beginning with Task A on Page Four, one can follow the flow of the simplest type of error-free hot cut. As the exhibit reveals, the ILEC must conduct at least twenty-three (23) separate tasks and the CLEC must conduct at least twelve (12). These tasks cannot be conducted at the same time but must move forward in a back and forth flow and often must be coordinated with the other party. In addition, I have attached to my testimony as Exhibit MDV-4 a video depicting the extensive changes to the network architecture required to perform the hot cut process, the numerous manual steps involved in the actual hot cut, and an efficient and effective alternative to the manual hot cut process.

Q. HOW DO THESE ADDITIONAL STEPS IMPACT CLECS THAT ATTEMPT TO USE THEIR OWN SWITCHES?

A. First, these additional steps add time. UNE-P orders are completed much more quickly than UNE-L orders. The completion interval for an Kentucky UNE-P order without any field work is from less than ½ day to less than two and one half days:

Dispatch Type	Volume	Order Interval (excluding FOC Interval)
Switch based Completions	8,022	0.34 days
Central Office Based Completions	1,030	2.49 days

In contrast, the completion interval for UNE-L orders that do not require field work is as follows:

Loop Type	Volume	Order Interval (excluding FOC Interval)
2 wire analog loop with LNP (designed)	45	No Kentucky data 5.36 days region
2 wire analog loop with LNP (non-designed)	503	No Kentucky data 4.76 days region

(See measure P-4, Order Completion Interval—December 2003 Kentucky and regional PMAP reports)

Second, the multi-step, highly manual UNE-L process introduces numerous opportunities for human error and degradation of service quality. The greater the opportunity for error, the more likely the service migration date may be delayed or changed, which causes customer dissatisfaction with the CLEC. Moreover, introduction of errors also significantly increases the likelihood that the customer may be either completely out of service for an extended period or be unable to receive incoming calls.

Mass market customers will not accept such delays or errors. As the FCC noted, these customers "*have come to expect the ability to change local service providers in a seamless and rapid manner.*" TRO ¶ 471 (citations omitted) (emphasis added). They "generally demand reliable, easy-to-operate service and trouble-free installation." *Id.* at 467 (citations omitted). Moreover, when troubles occur, end-user customers blame the CLECs. The FCC recognized that "[s]ervice disruptions also will influence customer perceptions of

competitive LECs' ability to provide quality service, and thus affect competitive LECs' ability to attract customers." *Id.* at ¶ 466.

These critical service quality concerns and others are reflected in the following table that illustrates the inferior performance BellSouth provides for analog loops compared to UNE-P in Kentucky, obtained from the recently BellSouth-reported performance data.

	UNE-P	**Analog Loops/with LNP**
Flow-Through for migration orders	90.1%	50% (2 orders) 27.1%- region
% Orders requiring Field Dispatch[6]	3%	No activity in Kentucky 48% -Design region 36%-Non-design region
Non-dispatch Order Completion Intervals	.34 days for switch based 2.49 days for central office	Design 5.36 days Non-design 4.76 days

From December PMAP reports, and Exhibits MDV-1 and MDV-2.

As is depicted above (even with the current minimal UNE-L volumes), far fewer UNE-L migration orders flow-through and thus more orders have to be handled manually, significantly more UNE-L orders require a field dispatch, and due date intervals are longer for UNE-L than UNE-P. In sum, the enormous increase in physical work in the central office to provision hot cut customers is exacerbated by significantly more manual work and delay in every step of the process.

Third, these additional steps add significant cost. The cost for processing and provisioning a UNE-P order in BellSouth Kentucky is $7.98. In sharp contrast, the cost for coordinated hot cuts in BellSouth Kentucky ranges from $63.54 to $165.78. Similarly, a CLEC's internal costs for UNE-P are significantly less than UNE-L. This is because once the UNE-P orders are submitted, they are tracked electronically and generally do not require

[6] The 3% field dispatch for UNE-P is likely to be applicable to new installations only (not migrations), creating an even greater disparity between field dispatch for UNE-P than UNE-L than the data indicate.

individual work. For UNE-L orders, however, the CLEC bears labor costs to prepare, track and implement its orders. As represented more fully in Exhibit MDV-3, these additional CLEC costs include the following work activities: (1) connecting facility assignments ("CFA") inventory management, (2) dial tone and conformance testing, (3) internal pre-cut and day of cut coordination with ILEC, and (4) separate systems and activities required to support number portability. In addition, if the CLEC's customer wants the conversion completed during "non-business" hours in order to avoid service disruption during the time when service is most critical to the customer, the CLEC must pay overtime for any involved personnel. And critically, the CLEC will never recover these costs if the CLEC loses the customer as a result of problems incurred during the hot cut itself, or in situations where the industry is experiencing rapid customer churn. TRO ¶ 471.

Q. WHAT COST DOES AT&T BELIEVE IS APPROPRIATE FOR MIGRATING CUSTOMERS?

A. AT&T believes that the cost for migrating customers among providers must be based on forward-looking technology (electronic) technology, and should be as equitable as possible among types of service migrations. For example, the cost of a PIC change in BellSouth Kentucky is $3.07, and the cost of a migration to UNE-P in BellSouth Kentucky is $7.98. Methods other than electronic provisioning of service migrations lead to discriminatory price differences that are impossible to overcome.

Q. ARE THE OPERATIONAL ISSUES YOU DISCUSS UNIQUE TO BELLSOUTH?

A. No. While, as discussed below, BellSouth has created some unique issues due to its refusal to respond reasonably to requested improvements in its hot cut process, most of the

operational barriers inherent in the hot cut process exist simply because it is a burdensome manual process that must be performed on a loop by loop basis. Any manual process, by nature, introduces significant potential for human error. Mistakes such as (1) disconnecting the wrong loop, (2) premature disconnects, (3) cross-connecting the loop to the wrong CFA, (4) inadvertently breaking cross-connection wires on the frame for end-users not involved in the hot cut while connecting the new or disconnecting the old jumper pairs, or (5) making poor connections on the terminal block (*e.g.*, loose wire wraps) all can lead to customer service outages that can be lengthy if the problem goes undetected by the person who made the error. The hot cut process is inherently labor-intensive, inefficient, prone to error, and incapable of sustaining the volumes necessary to allow effective competition in the mass market.

Q. WHY DO YOU SAY THE HOT CUT PROCESS IS INHERENTLY INCAPABLE OF SUSTAINING VOLUMES NECESSARY TO ALLOW EFFECTIVE COMPETITION FOR MASS MARKET CUSTOMERS?

A. The failure and service restoration problems that occur at low volumes will only be exacerbated by the tremendous increase in the level of activity that will be required if unbundled local switching were not available and CLECs are forced to use UNE-L to serve mass market customers. These problems will be further compounded with the number of additional inexperienced people that will be necessary to work the hot cut process and to troubleshoot and repair the increased troubles that are likely to occur. Because the industry as a whole has absolutely no experience providing service to mass market customers using a hot cut process -- or anything remotely comparable to it -- it is impossible to accurately qualify the impact this process will have on service quality. We do know, however, that service quality is likely to decline, because any time a process requires human intervention

and manual steps, there is greater opportunity for failures to occur. Moreover, the opportunity for failures increases disproportionately when rapid increases in volumes occur. For decades, all industries, including the telecommunications industry, have affirmatively sought out and implemented technological improvements that reduce or eliminate manual activity in their transaction processes. Attempting to serve the mass market using the manual hot cut process on each and every customer's analog loop runs counter to that trend and can only turn back the clock on the technological advancements that have been made.

Q. DOES BELLSOUTH CURRENTLY HAVE A BULK OR BATCH HOT CUT PROCESS?

A. No. BellSouth currently has a bulk ***ordering*** process, but the hot cut provisioning is not done in a batch mode. In fact, if a CLEC requests that a group of hot cuts be done together, BellSouth places more restrictions on those hot cuts than if they are performed on an individual basis. For example, BellSouth currently offers time-specific hot cuts for individual analog loop migrations, but does not allow time-specific cuts when using its batch ordering process.

Q. HAS AT&T ASKED BELLSOUTH TO DEVELOP A BULK HOT CUT PROCESS?

A. Yes. AT&T has twice requested BellSouth to develop a bulk conversion processes with BellSouth. These requests were made because AT&T had found the individual hot cut process to be inadequate. Therefore, these requests were intended to provide AT&T a more efficient and effective means to migrate customers to its facilities, when it was otherwise

feasible to do so.[7] In particular, it was intended to provide AT&T an additional *optional* tool for use at its discretion when the determination was made that a limited migration from UNE-P to UNE-L in unique circumstances for certain sets of customers was economically feasible.[8] AT&T did not contemplate, nor is it feasible that the processes it requested, even if implemented properly, would be capable of being used as a replacement for UNE-P.

Q. WAS A BULK HOT CUT PROCESS AS REQUESTED BY AT&T TIMELY IMPLEMENTED?

A. No. AT&T made its first request, via the BellSouth change control process, in November 2000. In March 2003 -- nearly 28 months later, BellSouth implemented a bulk ordering (not provisioning), process as a result of AT&T's change request.[9] However, that process did not meet AT&T's needs as described in the change request. In fact, the provisioning (or actual hot cut portion) of BellSouth's "new" process appears to be "business as usual," with the critical exception that it does not allow time-specific cuts, which are essential to customer satisfaction**.** The process implemented was simply the bulk ordering process mentioned earlier.

Q. WHAT SPECIFIC CONCERNS DID AT&T HAVE WITH BELLSOUTH'S BULK PROCESS OFFERING?

A. The process had numerous flaws that made it at least as inefficient and expensive as the old process, if not more so. Among other things, (1) the process did not allow for after-

[7] It was also anticipated by AT&T that these new BellSouth "bulk" methods would cost less than a "one at a time" process. (See Exhibit MDV-5 August 30, 2002 letter from Denise Berger of AT&T to Jim Schenk of BellSouth)

[8] Such conditions include a high concentration of customers, facilities are "on network" using CLEC owned fiber, and spare DLC equipment is in place and effectively represents a sunk cost to AT&T.

[9] See Exhibit MDV-6, which attaches BellSouth's UNE-P to UNE-L Bulk Migration CLEC Information Package.

business-hours hot cuts, (2) did not provide any assurances that all end users' lines or services would in fact be provisioned at the same time or even on the same day, (3) failed to guarantee any number of total lines that BellSouth would provision in a single day, and (4) lacked a process for timely restoration of customer service in the event of a problem. Moreover, there were no cost-savings from the process.

Q. PLEASE DESCRIBE YOUR SECOND REQUEST OF BELLSOUTH TO IMPLEMENT A BULK PROCESS.

A. In August 2002, AT&T requested, on a business-to-business basis, that BellSouth adopt a new process to address the insufficiency in the individual loop hot cut process. AT&T requested that the process include among other things:

- The ability to convert between 100 – 250 lines within a single Local Serving Office (LSO) in a single batch;
- That BellSouth complete its conversion readiness, including dial-tone/Automatic Number Identification ("ANI") testing, loop qualification testing and pre-wiring, in advance of the conversion;
- That BellSouth commit to immediate service restoration if a service outage occurred during the conversion process;
- The development of appropriate measurements and tracking to ensure the quality of the process, and if necessary, to further improve the process; and
- Substantially reduced prices for hot cuts.

Q. WHAT WAS BELLSOUTH'S RESPONSE TO THIS REQUEST?

A. BellSouth refused to commit to any volume of lines that could be included in a batch. BellSouth responded that AT&T's request was technically feasible except "the quantity of physical facilities and telephone numbers cut per evening will vary based on the load at the time the request is submitted, and will be driven by the actual lines per customer." It also indicated it would charge AT&T $134.32 per working telephone number, *in addition* to regular ordering and provisioning charges, as well as other unspecified overtime charges for

technicians and service representatives.[10] In other words, the costs for the requested process were much higher and completely unpredictable. AT&T, of course, was unable to accept such a cost prohibitive proposal since the purpose of the request was to move customers' analog loops from UNE-P to AT&T facilities when it was economic to do so.

Q. IF BELLSOUTH WERE TO IMPLEMENT NOW THE PROCESS AT&T REQUESTED, WOULD SUCH IMPLEMENTATION SATISFY THE FCC'S DIRECTION TO APPROVE AND IMPLEMENT A BATCH HOT CUT PROCESS?

A. No. AT&T requested this bulk hot cut process for use in limited circumstances and for relatively small volumes of customer lines. That process would not be adequate for the increased number of loop migrations that would be necessary in a world in which unbundled local switching is not available to CLECs. The FCC has directed state commissions "to approve and implement . . . a seamless, low-cost process for transferring large volumes of mass-market customers . . .." TRO ¶ 423. The process that AT&T proposed to BellSouth on a business-to-business basis would not comply with the FCC's directive.

III. <u>THE FCC'S DIRECTION TO ESTABLISH A BATCH HOT-CUT PROCESS: WHAT ARE THE CHALLENGES?</u>

Q. WHAT DEFICIENCIES DID THE FCC FIND WITH THE CURRENT HOT CUT PROCESS?

A. The FCC made numerous findings regarding the inadequacy of the ILECs' current hot cut process. These findings confirm the concerns AT&T has raised about hot cuts in the past and demonstrate why AT&T moved away from provisioning mass market customers' analog loops using hot cuts to provide service to its customers.

[10] See Exhibit MDV-7 for June 9, 2003 letter from Denise Berger of AT&T to Phillip Cook of BellSouth.

First, the FCC recognized that deficiencies in the hot cut process are seen and felt by the CLECs' customers. It found that the problems and delays associated with hot cuts "prevent[ ] the competitive LEC from providing service in a way that mass market customers have come to expect." TRO ¶ 466. This is a substantial problem because "competition is meant to benefit consumers, and not create obstacles for them." *Id.* ¶ 467.

Second, the FCC recognized that CLECs are likely to lose customers as a result of these deficiencies. "Service disruptions also will influence customer perceptions of competitive LECs' ability to provide quality service, and thus affect competitive LECs' ability to attract customers." *Id.* ¶ 466. Specifically, the FCC found that the "record shows that customers experiencing service disruptions generally blame their provider, even if the problem is caused by the incumbent." *Id.* ¶ 467 (citations omitted).

Third, the FCC recognized that many of the deficiencies with provisioning analog loops using hot cuts are inherent in the process. The FCC concluded, based on the evidence presented, that "hot cut capacity is limited by several factors, such as the labor intensiveness of the process, including substantial incumbent LEC and competitive resources devoted to coordination of the process, the need for highly trained workers to perform the hot cuts, and the practical limitations on how many hot cuts the incumbent LECs can perform without interference or disruption." *Id.* ¶ 465 (citations omitted).

Fourth, the FCC focused specifically on the unavoidable limitations on the volume of hot cuts the ILECs could perform. The FCC found that CLECs were impaired because hot cuts could not be performed in the volumes that would occur in the mass market: "[h]aving reviewed the record evidence, we find that it is unlikely that incumbent LECs will be able to provision hot cuts in sufficient volumes absent unbundled local circuit switching in all

markets." *Id*. ¶ 468. The FCC specifically rejected ILEC arguments that the FCC's prior findings in section 271 proceedings regarding hot cuts demonstrated lack of operational impairment. The FCC correctly found that the number of hot cuts in the current market environment "is not comparable to the number that incumbent LECs would need to perform if unbundled switching were not available for all customer locations served with voice-grade loops." *Id*. ¶ 469 (citations omitted). Thus, the issue here is that there is "an *inherent limitation* in the number of manual cut overs that can be performed, which poses a barrier to entry that is likely to make entry into a market uneconomic." *Id*. (emphasis added) (citations omitted).

Finally, the FCC concluded that ILEC *promises* regarding their ability to perform any requested volume of hot cuts cannot be relied upon to demonstrate adequate performance. Specifically, the FCC found that "incumbent LECs' promises of future hot cut performance [are] insufficient to support a Commission finding that the hot cut process does not impair" CLECs. *Id*. at n. 1437.

In sum, the FCC found "ample testimony in the record" on CLECs' operational and economic difficulties with hot cuts. *Id*. ¶ 466. It recognized that "hot cuts frequently lead to provisioning delays and service outages and are often priced at rates that prohibit facilities-based competition for the mass market." *Id.* ¶ 465.

Q. PLEASE SUMMARIZE THE FCC'S ANALYSIS OF THE CONCERNS WITH HOT CUTS.

A. Consistent with AT&T's own experience, the FCC drew the following conclusions with regard to the operational deficiencies involved in the hot cut process, especially as they would apply in a market in which competitors do not have access to UNE-P:

- Hot cuts are labor intensive
- Hot cuts require the expenditure of substantial ILEC and CLEC resources
- There is a practical limitation on how many manual hot cuts an ILEC can perform
- Hot cuts often result in provisioning delays
- Hot cuts can cause significant service outages
- Poor hot cut performance causes customer dissatisfaction with individual competitors and the competitive process in general
- Hot cuts generally impose prohibitively high costs on competitors, both internal and external
- ILEC claims that current hot cut performance can be readily expanded to a "UNE-L only" environment cannot be accepted without proof of performance.

Based in part on these conclusions relating to hot cuts, the FCC made a "national finding that competitive carriers providing service to mass market customers are impaired without unbundled access to local circuit switching." *Id*. ¶ 422. In attempting to set out a plan to help mitigate the inherent deficiencies with the ILECs' current hot cut processes, the FCC asked state commissions to "approve and implement a batch cut migration process – a *seamless, low-cost process for transferring large volumes of mass market customers . . . .*" *Id*. ¶¶ 422-423. (emphasis added). This batch cut process must "render the hot cut process more efficient and reduce per-line hot cut costs." *Id*. ¶ 460. It must also "address the costs and timeliness of the hot cut process." *Id*. ¶ 488.

Q. WHAT DOES THE FCC MEAN BY "BATCH CUT PROCESS"?

A. The FCC defined a batch cut process as a seamless, low-cost process for transferring large volumes of mass market customers. *Id*. ¶ 487. The FCC found that "the hot cut process could be improved if cut-overs were done on a bulk basis, such that the timing and volume of the cut over is better managed," and the non-recurring costs reduced. *Id.* ¶ 474 (citations omitted). Indeed, the FCC found that "such improvements are likely to be *essential*

to overcome the operational impairment that competitors face in serving mass market customers. *Without such improvement*, the record shows that *carriers are likely to be unable to economically serve a market characterized by low margins*." *Id.* (emphasis added).

Q. DID THE FCC FIND CURRENT ILEC PROCESSES FOR CONVERTING CUSTOMERS IN BULK TO BE SUFFICIENT?

A. No. The FCC found that:

> Project managed cut-overs involve the conversion of a number of lines at one time, pursuant to provisioning requirements and intervals negotiated by the incumbent and the competitive LEC. We find that these approaches are not sufficiently developed or widespread enough to adequately address the impairment created by the loop cut over process. The evidence in the record demonstrates that the carriers that have used project-managed cut overs have used them only for business customers, and only after acquiring the customer through a means that offered the use of incumbent LEC loops and switches in combination.

Id. ¶ 474 (citations omitted). The FCC also noted that "the record evidence indicates that incumbent LECs are not well-equipped to handle hot cut volumes even with the existence of a procedure to manage bulk migrations on a project-managed basis." *Id.* ¶ 487 at n. 1516.

Q. WHAT DIRECTION DID THE FCC PROVIDE TO STATE COMMISSIONS REGARDING BATCH CUT PROCESSES?

A. The FCC found that a "seamless, low-cost batch cut process for moving mass market customers from one carrier to another is necessary, ***at a minimum***, for carriers to compete effectively in the mass market." *Id.* ¶ 487. (citations omitted) (emphasis added) The FCC's Order directs state commissions to approve, within nine months of the effective date of the Order, a batch hot cut migration process to be implemented by the incumbent LECs that will

address the costs and timeliness of the hot cut process.[11] *Id.* ¶ 488. More specifically, it requires state commissions to do the following:

- Adopt a batch cutover "increment" for migrating customers served by unbundled loops combined with unbundled local circuit switching to unbundled stand-alone loops. In other words, states should decide the appropriate volume of loops that should be included in the "batch."
- In conjunction with incumbent LECs and competitive LECs, approve specific processes to be employed when performing a batch cut. The FCC "expect[s] these processes to result in efficiencies associated with performing tasks once for multiple lines that would otherwise have been performed on a line-by-line basis."
- Determine whether the ILEC is capable of migrating batch cutovers in a timely manner.
- Adopt TELRIC rates for the batch cut process. These rates should reflect the efficiencies associated with batch migration of loops to a competitive LEC's switch, either through a reduced per-line rate or through volume discounts.

TRO ¶ 489.

Q. DOES BELLSOUTH CURRENTLY HAVE A BATCH HOT CUT PROCESS THAT MEETS THESE REQUIREMENTS?

A. No. As discussed above, BellSouth's bulk process is a bulk ordering process, not a process for provisioning analog loops via hot cuts in batches. Moreover, it is not seamless, it is not low cost, and it is not capable of handling large volumes of mass market customers. Thus, BellSouth does not have a process that meets a single one of the FCC's requirements.

First, the FCC said that the "states should decide the appropriate volume of loops that should be included in the 'batch'." TRO ¶ 489. As previously discussed, BellSouth has quantified how many lines a CLEC can order in bulk, but it has not identified the quantity

[11] A state commission may decline to institute a batch cut process, provided that it instead issues *detailed* findings regarding the volume of UNE-L migrations that could be expected if competitive LECs were no longer entitled to unbundled local circuit switching, that the incumbent can be expected to meet that demand in a timely and efficient manner using the existing hot cut process, and that the non-recurring costs associated with the hot cut process are not an entry barrier. *Id.* ¶ 490. Failure to develop a process, however, does not relieve the state commission of its obligation to analyze whether requesting carriers are impaired without access to unbundled switching.

that will be *provisioned* together. Thus, BellSouth has provided no information regarding the size of any batch, how many (if any) simultaneous batches it could provision, or how frequently it would be able to schedule such batches, either in individual offices or in groups of offices at the same time or over any stated period.

Second, the FCC said that, "[i]n conjunction with incumbent LECs and competitive LECs, [states must] approve specific processes to be employed when performing a batch cut." TRO ¶ 489. As I described above, AT&T's attempts to work with BellSouth, both through the Change Control Process and through business-to-business channels, on an effective bulk process have not yielded a satisfactory process.

Third, states must "determine whether the ILEC is capable of migrating batch cutovers in a timely manner." *Id*. BellSouth's target intervals, as described below and stated in its UNE-P to UNE-L Bulk Migration information package, are far from timely.[12]

# of End-user Telephone Numbers	Minimum Number of Days from submission of project notification to due date of requests
Up to 99	24 business days
100-200	27 business days
201+	Negotiated

Fourth, states must "adopt TELRIC rates for the batch cut activities they approve." TRO at ¶ 489. As shown above, BellSouth's rates for its bulk ordering process are very high – indeed, they are the same as for individual cuts, indicating that BellSouth does not believe that it will realize any economic efficiencies through its proposed batch process. And certainly, the ***additional*** $134.32 plus overtime BellSouth proposed to AT&T was not based on TELRIC.

[12] See Exhibit MDV-6, page 10.

Q. DO YOU BELIEVE THAT A BATCH PROCESS HAS REASONABLE PROSPECTS FOR ALLEVIATING THE OPERATIONAL AND ECONOMIC PROBLEMS THE FCC FOUND IN THE INDIVIDUAL HOT CUT PROCESS?

A. No. While AT&T has sought the implementation of bulk hot cut processes to improve the existing manual process, the improvements that AT&T sought were intended to augment *existing* manual provisioning processes. Project-managed, after hours, bulk transfers of customers on a central office and CLEC specific basis could improve the quality and efficiency of the hot cut process, and allow AT&T and other CLECs to make use of their facilities in the limited cases where such migrations are otherwise feasible. It was never contemplated that such a process, if implemented, would be adequate to support the migration volumes of customer's analog loops sufficient to serve the entire mass market. However, BellSouth's proposed bulk ordering process, as well as AT&T's proposed hot cut process, are almost entirely manual by design. Indeed, although the process is called "batch" or "bulk", each physical loop cutover is done individually, just as they are for "individual" hot cuts. Even the best manual processes that could be operationalized today, including any batch migration process, cannot sustain competitively unconstrained migrations of hundreds of thousands of mass market customers among all carriers.

Q. WILL THE IMPLEMENTATION OF A BATCH HOT CUT PROCESS ELIMINATE ECONOMIC IMPAIRMENT?

A. No. First, any efficiency gains realized from a manual batch hot cut process likely will be too small to result in substantial reduction of the overall costs required to extend mass market analog loops to CLEC switches. Critically, a batch provisioning process does not relieve any of the economic impairment that results from the collocation, digitization,

concentration and backhaul costs that a CLEC must incur to connect the ILEC loop to its switch. *See* Direct Testimony of AT&T Witness Steven E. Turner.

Q. WHAT OPERATIONAL CONSTRAINTS ON COMPETITION SHOULD THIS COMMISSION REVIEW?

A. First, this Commission should review the capacity constraints of any proposed batch cut process. Capacity limitations are imposed by the physical structure of the network and the manual nature of the process. Second, the Commission should conduct a review to ensure that all types of service configurations are accommodated in any proposed batch provisioning process. For example, current batch provisioning processes do not address the following significant market components: customers served by Integrated Digital Loop Carrier ("IDLC") loops, customers in a line splitting arrangement, and customers migrating between CLECs**.** Unless these service configurations are included, CLECs have no choice but to use the current inadequate individual hot cut process for these thousands of customers, and leave them out of the "improved" process that the FCC requires. Third, this Commission should review BellSouth policies that impede CLECs from obtaining unbundled local switching from third parties. Fourth, migrating all mass market customers served by CLECs to UNE-L is likely to create new operational constraints. For example, new traffic patterns from the ILEC's switch-to-switch network to the ILEC's tandem network may increase the blocking of interconnection trunks behind the ILEC's tandem switches and create congestion in the ILEC's tandem switches. In developing a new batch hot cut process, this Commission must investigate and understand those concerns to assure that customers served by CLECs receive quality service.

A. Any Batch Process Must Address Capacity Constraints

Q. WHY IS THE CAPACITY OF THE ILEC'S HOT CUT PROCESS IMPORTANT TO THIS PROCEEDING?

A. An ILEC's ability to provision mass market customers' analog loops easily and quickly between carriers at the volume or "scale" required for competition in the mass market is central to the issue of operational impairment. Clearly, if an ILEC's hot cut process creates a bottleneck or otherwise constrains the number of analog loops that can be provisioned, CLECs are operationally impaired in serving mass market customers. There is no question that current hot cut processes are predominantly manual. As such, they impose limits on the number of customer's analog loops that can be provisioned in any given day and the number of customers a CLEC can actually migrate to its services.

This manual process stands in glaring contrast to an ILEC's ability to transfer new mass market long distance customers to its services at very low cost, in very high volumes, and in a short period of time using the highly automated PIC change process that the industry has developed over the past 20 years. There are no practical limits on an ILEC's ability to provision new long distance customers through the time-tested electronic PIC migration process. If an ILEC cannot develop a hot cut process that meets the needs of the competitive mass market for local services commensurate with the scale achieved in the long distance market, then CLECs are operationally impaired, as they are relegated to manual processes which limit their ability to acquire local customers, while the ILEC enjoys virtually unconstrained ability to provision both its local and long distance service electronically.

The TRO recognizes that, in making operational and impairment decisions, state commissions must look to all factors affecting likely revenues and costs. *See* TRO at n.

1497. An ILEC will have limited costs and complete lack of operational constraints when it utilizes the PIC process for acquiring long distance customers for its bundled local and long distance service offering. That same kind of efficient, seamless, high-volume, low cost process for CLECs attempting to acquire local customers for the CLEC's bundled local and long distance service offering is necessary to ensure a level competitive playing field. If local competition for mass market customers is to be maintained and encouraged, the process for switching local carriers must be as seamless and unobtrusive to the end-user as the PIC change process.

Q. DID THE FCC ADDRESS THIS CAPACITY ISSUE?

A. Yes. The FCC's Triennial Review Order expressed a number of significant concerns regarding the capacity limitations of the hot cut process. First, the FCC found that hot cut capacity "is limited by several factors, such as the labor intensiveness of the process, including substantial incumbent LEC and competitive resources devoted to coordination of the process . . . and the ***practical limitations on how many hot cuts the incumbent LECs can perform without interference or disruption***." *Id.* ¶ 465 (emphasis added) (citations omitted). Second, the FCC stated that "[i]n deciding whether competitors are impaired by incumbent LEC provisioning processes, we must necessarily make a predictive judgment concerning this systemic capability to handle anticipated future hot cut volumes, which (absent access to unbundled local circuit switching) would be greater than volumes that have been experienced in the past . . . . Having reviewed the record evidence, ***we find that it is unlikely that incumbent LECs will be able to provision hot cuts in sufficient volumes absent unbundled local circuit switching in all markets***." ¶ 468 (emphasis added). Third, the FCC found that "the issue is not how well the process works currently with limited hot

cut volumes, rather the issue identified by the record is ***an inherent limitation in the number of manual cut overs that can be performed***, which poses a barrier to entry that is likely to make entry into a market uneconomic." *Id.* ¶ 469 (emphasis added) (citations omitted).

Q. DOES BELLSOUTH'S CURRENT HOT CUT PROCESS HAVE SUFFICIENT CAPACITY TO SUPPORT MASS MARKET VOLUMES?

A. No. First, there is a physical limit to the number of hot cuts that can be performed per technician per day. For example, in its state 271 proceedings and the FCC Triennial Review proceedings, BellSouth provided a pictorial depiction of the central office activities required to implement a hot cut including, pre- and post-cut testing, wiring, coordination, and cut-over of the circuit (*See* Exhibit MDV-8). This straight-forward example uses a single sided distribution frame, with the work at a floor level. Much more complex frame configurations are more likely to be encountered, including configurations involving intermediate as well as main distribution frames, frames located on different floors, frames with more tiers, frames that require multiple cross connections, as well as differing technologies such as solder, punch down, and /or wire wrap terminals.

As is clear from BellSouth's own representation, the hot cut process involves numerous steps, is highly manual and takes place in an environment that lends itself to (1) disconnecting the wrong loop, (2) cross connecting the loop to the wrong CFA, (3) inadvertently breaking cross-connection wires on the frame for end-users not involved in the hot cut while running in the new or disconnecting the old jumper pairs, and (4) making poor connections on the terminal block. All these errors will lead to a customer service outage which can be lengthy should the problem go undetected by the person who made the error.

Further, BellSouth's testimony in Florida indicates that each technician can complete an average ten hot cuts per shift. Moreover, there is a limit to how many technicians can work simultaneously at a distribution frame. Again, BellSouth's own data amply demonstrate this point. For example, central office "HLWDFLWH" had 14,506 lines and BellSouth estimated that it would take 6.98 months to convert the lines in that one central office.[13] BellSouth further stated in its response to Interrogatory 44 that in making this estimate, it assumed (because this was a large office) 6 frame technicians dedicated to this task during the day and 12 at night, for an average of 9. It also stated that it assumed each technician would conduct approximately 11.5 cuts per day for approximately 104 conversions per day. Therefore, even in this "large office" with well over 100,000 lines, BellSouth would only convert 104 lines per day, even with working two shifts of up to twelve technicians. Maximum migrations of volumes such as these, which comprise a tiny fraction of the available customers, are a completely inadequate number to support meaningful UNE-based competition.

Finally, it is important to keep in mind that the BellSouth personnel responsible for the hot cut frame work are not dedicated exclusively to this task. Consideration must be made of the personnel and space availability requirements for *other simultaneous* central office activities such as new service installations for both BellSouth and CLECs, migrations back to BellSouth, troubleshooting and repairing frame related troubles on existing lines. For example, when BellSouth technicians install new wires on the Main Distribution Frame "MDF" for an existing customer migration, the technicians will also have to perform a separate job (or jobs) to disconnect and remove (or "mine") the existing wires from the MDF.

[13] See Exhibit MDV-9 for excerpts from December 24, 2002 Ex Parte of BellSouth filed in FCC WC Docket 01-338.

Q. WHAT CAPACITY TO MANUALLY PROVISION LOOPS FOR THE MASS MARKET SHOULD BE REQUIRED?

A. The appropriate model for an analysis of required capacity is the activity in the long distance market, which is actively competitive, and therefore representative of the level of competition sought by regulators and the CLEC industry. There, the average "churn rate" – the percentage of all customers making a carrier change – is approximately 25% of all lines in a year.[14] In BellSouth Kentucky territory, that level of churn would mean if customers were moved from one carrier to another using UNE-loops exclusively, the churn would be approximately 22,000 lines per month. [Based on BellSouth's December PMAP Customer Trouble Report Rate report that states it has approximately 1,059,200 POTS lines in service in Kentucky (approximately 890,000 retail POTS, 13,000 resale, 155,000 UNE-P, and 1,200 analog UNE-L)]. This equates to 1,000 hot cuts per business day. In such a market, BellSouth would have to perform more hot cuts in a day--every business day--than it performs in months in the current environment.

The ***minimum*** standard against which BellSouth's capacity should be assessed is the amount of hot cuts BellSouth would need to perform in a market in which competition currently relies on both UNE-P availability and UNE-L availability but, if unbundled local switching is not available, would rely on only UNE-L availability. In other words, the Commission should compare loop volumes to UNE-P volumes to see if BellSouth is indeed capable of performing the former type of customer transfer at the same level as the latter. Elimination of UNE-P should never be allowed to materially restrict competitive choices that

[14]From the Yankee Group's 2003 TAF (Technologically Advanced Family) survey- a national household survey mailed to several thousand US households during the second quarter of the year. The study sample is selected from a Consumer Mail Panel of 600,000 representative households, which is updated annually.

consumers have today. According to BellSouth's response to AT&T interrogatory 32 (See Exhibit MDV-1), it has issued an average of 8,009 service orders per month to migrate customers to UNE-P in Kentucky during a recent 14-month period.[15] During that same period, BellSouth issued an average of 8 migrations to UNE-L orders per month. (See Exhibit MDV-2). Thus, BellSouth has processed on average ***1000 times more*** UNE-P migration orders each month than it has UNE-L migration orders.[16] In short, converting from using UNE-L for specialty market situations into UNE-L for the mass market requires scaling by a factor of 1000 to 1.[17]

Q ARE THERE OTHER PHYSICAL STRUCTURE ISSUES THAT LIMIT THE CAPACITY OF BELLSOUTH'S HOT CUT PROCESS IN KENTUCKY?

A. Yes. The rate at which BellSouth can conduct hot cuts is also adversely affected by the extra dispatches of technicians required by: (1) unmanned central offices, and (2) hot cuts involving IDLC loops, which will require a field dispatch.[18] For example, 46% of BellSouth's central offices are unmanned. (*See* BellSouth response to AT&T Interrogatory No. 1 attached as Exhibit MDV-10).

[15] While the number of orders issued is not exactly equal to number of orders completed, it is a reasonable surrogate for purpose of this analysis.

[16] These numbers do not include migrations back to the ILEC, which also require provisioning work. In assessing BellSouth's capacity to do the work required, those volumes must be added. .

[17] Both these models are conservative in that they do not include the additional work that would be created if any markets are found not be to impaired and thus the embedded base of UNE-P must be migrated.

[18] Field dispatches are not required in these two scenarios when migrating a customer to UNE-P.

Further, 16% of BellSouth's lines in Kentucky are served using Integrated Digital Loop Carrier ("IDLC").[19] As described below, loops on IDLC do not have an appearance on BellSouth's MDF and thus cannot be transferred (if at all), without additional work.

At a minimum, a technician would have to be dispatched to transition the service to Universal Digital Loop Carrier ("UDLC") or copper facilities, if they are available**.** As described earlier in my testimony, only 3% of UNE-P orders required field dispatch. Based on the IDLC percentage provided by BellSouth of 16%, BellSouth would have to dispatch field technicians approximately 25,000 times just to convert the existing embedded base of UNE-P.[20] Dispatches such as these add complexity to the cut and could well lengthen the cut interval.

BellSouth recognizes these issues. In its response to AT&T's POD 14 in Florida (See Exhibit MDV-11), BellSouth stated "[a]dditional time to provide loops where existing service is provided over IDLC is necessary due to the fact that the process for handling a hot cut conversion is *significantly different* than with non-IDLC." Certainly the travel time and extra personnel required add to the cost and reduce the efficiency of the overall process. None of these problems affect customers served by UNE-P.

Q. DOES BELLSOUTH HAVE THE SPARE COPPER LOOP FACILITIES OR UDLC SYSTEMS TO MOVE THIS QUANTITY OF LINES OFF OF IDLC SYSTEMS?

A. BellSouth's data, provided in its response to AT&T Interrogatory No. 23 (attached as Exhibit MDV-12), indicated that of the approximately 74,000 it reported on IDLC in

[19] See Exhibit MDV-13 BellSouth response to AT&T Interrogatory No. 25.

[20] According to BellSouth's December 2003 PMAP Customer Trouble Report Rate report, BellSouth had approximately 155,000 UNE-P lines in service.

Kentucky, approximately 20,000 or 27%, have existing parallel copper or UDLC facilities available for hot cut conversions. Accordingly, for 73% of the loops it reported on IDLC, spare facilities are not available.

Q. CAN YOU GIVE SOME SPECIFIC EXAMPLES OF THIS PROBLEM?

A. Yes. In the chart below are five examples of central offices where, of all the lines on IDLC, only one quarter or less of those lines on IDLC have spare capacity facilities available for hot cut conversions.

CLLI Code	Address	% Spare Capacity
lsvlkywe	Louisville	11.5%
bwlgkyma	Bowling Green	21.3%
frftkyma	Frankfort	10.3%
lsvlkybe	Louisville	12.4%
mdvikyma	Madisonville	16.6%

Q. DOES BELLSOUTH HAVE AN OBLIGATION TO PROVIDE AN UNBUNDLED LOOP WHEN AT&T REQUESTS A LOOP SERVICED BY AN IDLC SYSTEM?

A. Yes. First, BellSouth has an obligation as described in the Kentucky AT&T/BellSouth Interconnection Agreement to unbundle IDLC delivered loops, using one of several alternative methods, where available. (See Attachment 2, Section 3.11 of the Interconnection Agreement). Further, the TRO requires BellSouth to develop an alternative that permits the customer's choice to be effectuated. TRO ¶ 297 (citations omitted).

Q. IN LIGHT OF BELLSOUTH'S OBLIGATIONS, DOES AT&T HAVE CONCERNS REGARDING ITS ABILITY TO OBTAIN UNBUNDLED LOOPS FROM BELLSOUTH?

A. Yes. If switching is eliminated as a UNE, the demand for unbundled loops may well be unlike anything BellSouth has experienced to date, and the CLECs have no assurance that BellSouth will not experience capacity issues due to IDLC loops, especially in those central

offices with high percentages of IDLC loops. AT&T is concerned that because of this prevalence of IDLC lines in many of BellSouth's central offices, CLECs may find themselves having to caveat all of their service offer marketing materials with language such as, "if available in your area." CLECs will also have to overcome negative word of mouth publicity because of their inability, through no fault of their own, to provide service to a customer.

Q. ARE THERE OTHER CONSTRAINTS ON THE CAPACITY TO PERFORM HOT CUTS CAUSED BY THE MANUAL NATURE OF THIS PROCESS?

A. Yes. Electronic order flow-through is an important component of capacity, as each instance of manual (human) intervention decreases efficiency and lengthens the provisioning interval. For example, when a service request flows through the ordering OSS without manual intervention, BellSouth is required to return a rejection in one hour or a FOC in 3 hours. However, if it falls out for manual handling, that interval becomes 10 (business) hours, which in many cases means that BellSouth can delay the order for a full day if it does not flow through. (BellSouth provides no performance data on the frequency and duration of fall-out from its provisioning systems.) Further, the percent of orders migrating service to UNE-L which were manually handled by BellSouth were significant: June 2003 – 73.1%, July 2003 – 62.7%, and August 2003 – 72.9%.[21] In contrast, the UNE-P migration orders requiring manual handling for June, July and August, 2003 were as follows: 9.7%, 9.3%, and 9.9%. (See Exhibits MDV-1 and MDV-2). With approximately two thirds of the UNE-L migration orders requiring manual intervention, it is obvious that productivity will be impacted if the volumes of orders were increased many-fold.

[21] Due to extremely low volumes in Kentucky, I used regional data for the loop migration analysis.

B. Any Batch Process Must Address the Segments of the Market That Pose Special Challenges

Q. WHAT SEGMENTS OF THE MASS MARKET POSE UNIQUE CHALLENGES FOR ANY MANUAL BATCH PROVISIONING PROCESS?

A. Customers served by IDLC loops, customers in a line splitting arrangement, and customers migrating between CLECs pose a problem for the hot cut process. As a technical matter they pose some process challenges. In addition, BellSouth's policy choices may well exclude them from a batch provisioning process.

1. IDLC

Q. WHY DO CUSTOMERS SERVED BY IDLC LOOPS POSE SPECIAL CHALLENGES FOR A BATCH PROVISIONING PROCESS?

A. The architecture of the loop/switch combination on IDLC loops is substantially different from other mass market loop architectures. Instead of aggregating copper loops in cables and carrying them all the way to the MDF at the central office, the ILEC brings the loop first to IDLC equipment that is housed in a remote terminal in a neighborhood. The IDLC at the remote terminal converts the analog signals coming from the customer's telephone service to digital signals and multiplexes all the digital signals for all of the customers served by the IDLC onto a digital carrier system for transmission to the central office. At the central office, the digital loops bypass the MDF altogether and access the switch directly through a digital cross-connection frame. No analog signal or physical reappearance on an MDF is ever re-established to identify an individual subscriber's loop. Therefore, when a customer is served by an IDLC loop, there is no separable wire at the MDF that is associated with his/her individual loop that can be disconnected and reconnected to a CLEC's collocated equipment. Therefore, if a CLEC wishes to use its own switch to

serve a customer that is currently on an IDLC system, BellSouth must first physically move the customer's line to a pre-existing copper facility or to a UDLC system. Loops that arrive in the central office on a UDLC system have an appearance on the MDF and therefore can be cross-connected to a CLEC's collocated equipment. As a result, loop migrations involving IDLC involve a field dispatch. RBOCs, such as SBC and Verizon-NY, which have performed bulk hot cuts, have limited them to migrations that could be performed solely within the central office where the bulk cut-over was being conducted. When BellSouth is ordered in Kentucky to provide batch hot cuts, it is essential that IDLC, a significant portion of the market, not be excluded from the process.

2. Line Splitting

Q. WHY WOULD CUSTOMERS IN A LINE SPLITTING ARRANGEMENT POSE SPECIAL CONCERNS IN ANY INSTANCE WHERE SWITCHING IS ELIMINATED AS A UNE, AS WELL AS IN DEVELOPING A BATCH HOT CUT PROCESS?

A. Line splitting is an arrangement that allows a DLEC (Data Local Exchange Carrier) and a CLEC to provide data and voice service over a single loop. The voice and data carriers may be the same or two different carriers. Line Splitting consists of:

(i) a UNE loop, a UNE switch port, and cross connections at a BellSouth central office,

(ii) a BellSouth owned or D/CLEC owned splitter, and

(iii) a D/CLEC owned DSLAM.

With line splitting, the voice service typically uses BellSouth facilities purchased by the CLEC as an unbundled loop and port. Since this service configuration uses both the ILEC loop and the ILEC voice switching, it is referred to here as "UNE-P based" line splitting (Exhibit MDV-14 depicts BellSouth line splitting arrangements with a D/CLEC providing the splitter, and with BellSouth providing the splitter. In both cases, the voice output of the

splitter appears on the BellSouth MDF and is cross-connected to the BellSouth switch port. 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. Moreover, BellSouth does not include line split lines in its current bulk hot cut process.

Q. HOW WOULD A CLEC PROVIDE DSL SERVICE TO ITS CUSTOMERS IF UNE-P, AND THUS "UNE-P" BASED LINE SPLITTING, WERE NO LONGER AVAILABLE?

A. In order to be able to provide voice and data services over a single loop, as is available via "UNE-P" based line splitting today**,** CLECs instead would have to provide DSL service via a UNE-L based line splitting arrangement, which is sometimes referred to as "loop splitting."

Q. PLEASE DESCRIBE YOUR UNDERSTANDING OF HOW UNE-L BASED LINE SPLITTING WOULD BE IMPLEMENTED IN BELLSOUTH TERRITORY.

A. UNE-L line splitting is the process by which a CLEC and a DLEC may collaborate to provide both voice and DSL service over a single copper loop without the use of ILEC provided switching. The CLEC would use a BellSouth provided loop and a non-BellSouth switch to provide voice service, and either self-provide or partner with a DLEC which would provide the data service using the high frequency portion of the loop and its own data switching network.

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 (splitter, DSLAM, and DLC).[22] A CLEC such as AT&T can only interconnect between its collocation and those of another collocated CLEC if the interconnection agreements between BellSouth and AT&T and BellSouth and the other CLEC both contain co-carrier cross connect language. See Exhibit MDV-15 for a depiction of a UNE-L Line Splitting arrangement using a single DLEC partner.

Q. WHAT OPERATIONAL CONCERNS ARE ASSOCIATED WITH USING THIS UNE-L LINE SPLITTING OR LOOP SPLITTING ARRANGEMENT COMPARED TO UNE-P LINE SPLITTING?

A. It is far more difficult for a CLEC to offer a DSL/voice bundle under a UNE-L arrangement than under UNE-P. For example, UNE-L line splitting adds operational complexity and risk, costs, and potential customer impact associated with cage-to-cage cross-connects and routing the CLEC's voice path through a DLEC's collocation space.

Q. PLEASE DESCRIBE THE OPERATIONAL COMPLEXITY AND THE ASSOCIATED RISK TO CUSTOMERS IN MORE DETAIL.

A. Assume that a CLEC and a DLEC have partnered to provide voice and DSL service using a UNE-P based serving arrangement (i.e. an ILEC provided loop and ILEC circuit switching) and that the DLEC provides the splitter being used. In this scenario, as with an ordinary hot cut, the customer's loop is delivered to the DLEC's collocation over a cable pair that passes through the BellSouth distribution frame. The cable pair to be used is identified at the BellSouth distribution frame by the Connecting Facility Assignment ("CFA").[23] Once at

[22] 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. The recurring dispatch costs make such an arrangement both operationally and economically infeasible.

[23] BellSouth provides CLECs with the circuit facility assignments (that is, cable and pair assignments for the cable between the CLEC's collocation arrangement and BellSouth's equipment such as distributing frames or cross-connect bays). CFAs are assigned to the CLEC at the time the CLEC's collocation arrangement is made available. Each CLEC is required to maintain its own circuit facility assignment records and assign each pair that the CLEC wants BellSouth to use in order to connect BellSouth facilities to the CLEC's facilities.

the DLEC's collocation, the high frequency signal present on the cable pair, (the DSL signal), is separated from the voice signal by the DLEC's splitter and is routed to its DSLAM, and ultimately connected out to its data network. The voice portion of the loop must be returned from the splitter in the DLEC collocation to the BellSouth frame (and ultimately the BellSouth switch) using a second CFA.

If instead that same CLEC and DLEC were to provide the same voice and DSL service to the same customer using a UNE-L arrangement, dedicated cage-to-cage cabling would be required, as would additional CFA management. In such a case, the customer's loop would still be delivered to the DLEC collocation from the BellSouth distribution frame on a cable pair identified by a CFA. However, the voice portion of the loop however would *not* be returned to BellSouth. Rather, it would be sent to a DLC in the CLEC's collocation area using dedicated cage-to-cage cabling, which would necessitate DLEC-to-CLEC CFAs.

The CLECs' Digital Loop Carrier (DLC) port in its collocation space that is used for voice only UNE-L service could not be used if the customer adds UNE-L based line split DSL, because the DLC port used to provide voice only service is pre-wired to the BellSouth distribution frame using dedicated cabling. Moreover, connections between the DLEC collocation and the CLEC collocation also use dedicated cage-to-cage cabling. The only alternative would be to dispatch a technician to recreate each connection. Thus the number of CFAs and the number of parties managing those CFAs increases when UNE-L line splitting is required. And, as a CLEC desires to have a business arrangement with more than one DLEC the problem becomes even larger. Exhibit MDV-16 illustrates the complexity of loop splitting when a CLEC chooses to have business relationships with multiple data providers.

Q. WHY DOES THE INCREASED NUMBER OF CFAS AND THE INCREASED NUMBER OF PEOPLE MANAGING CFAS CAUSE PROBLEMS?

A. First, maintaining proper CFA inventories has been problematic for the industry in general. Proper management of CFAs is critical to continuity of service for customers. If an incorrect CFA is used by either the ILEC or a CLEC, an end user may lose service or a change in service may be delayed. Accordingly, it is critical that all competitors, ILECs, CLECs, and DLECs maintain accurate CFA inventories and use appropriate CFAs. This becomes especially difficult in a UNE-L line splitting arrangement. The order exchange among the three parties in a UNE-L line splitting scenario must contain the information necessary for each party to determine what it is to provide, where and when. To accomplish this, the voice CLEC and the data DLEC must both send separate LSRs to BellSouth containing the CFA assignments for the BellSouth provided loop and the DLEC provided splitter. In addition, the CLEC and DLEC must select the same dedicated facility CFA between their two cages. Any differences in the CFAs on the two orders to BellSouth will cause them to be rejected and will cause delays. Likewise, if the CLEC and DLEC select different dedicated facilities between their cages, the order cannot be processed.

The greater the number of CFAs, the greater the number of potential breakage points in the service provisioning elements. This creates additional risk to the customer's voice service and greater difficulty in resolving any troubles, because the splitter is located in the DLEC's collocation cage rather than the CLEC's cage or the ILEC's common space. As a result, there must now be three parties involved in troubleshooting problems with a customer's voice service:

(i) the CLEC that owns the DLC and voice switch;

(ii) the DLEC that owns the splitter, through which the voice service passes; and

(iii) the ILEC, which provides the loop over which the voice service runs out to the end user's premises.

Thus, having the DLEC provide the splitter in a UNE-L line splitting configuration is quite different from having the DLEC provide the splitter in a UNE-P based line splitting arrangement. In the latter configuration, only the DLEC and ILEC need to be physically involved in troubleshooting complex voice problems. In a UNE-L line splitting arrangement, the ILEC, DLEC and CLEC must all be involved, and there are many more connections that could be causing the problem.

Q. PLEASE DESCRIBE THE COST IMPACTS TO AT&T OF USING A UNE-L BASED LINE SPLITTING ARRANGEMENT INSTEAD OF A UNE-P BASED ARRANGEMENT.

A. UNE-L line splitting will require rearrangements to add dedicated cage-to-cage cables and the pre-wiring of splitter ports, DSLAM ports and DLC ports to the cage-to-cage cables in advance of actually providing any service to end users. The smallest size increment available in pre-wired bundles for dedicated cage-to-cage cabling is 25 at a time. In order to mitigate the fixed costs of installation, however, CLECs would most likely want to wire most viable locations for 100 new customer installations per phase. The installation would have to include installation of more DLCs because, as described above, the DLCs used for voice only service would generally not be available. In order to avoid any increased maintenance costs, all pre-wired arrangements would be ready for service and thus would require power exactly as if they were in service. This factor automatically creates a surplus inventory that consumes power but generates no revenue. The additional cost of committing such network resources in advance is significant. For example, assume a CLEC with an established collocation providing voice service were to add the necessary equipment to be able to partner

with a DLEC collocated approximately 50 feet away from the CLEC in the ILEC central office. The CLEC would provide DSL service to its customers via UNE-L line splitting arrangements described above. The CLEC would incur the following up front costs for *each* DLEC with whom it chose to partner.

DLC Bay – One Shelf	$30,556.00
Pots Bay –Termination Block	$1,001.00
Cage to Cage Connectivity Costs–Non ILEC	2,445.00
Application Fee to BellSouth	$584.20
Total up front costs	34,586.20

Additionally, BellSouth would charge $72.54 per month for electrical power for this equipment as well as recurring charges per foot of cable run between the cages. Importantly, these costs are extremely conservative, as they do not include OSS costs for such items as additional CFA management, extra construction charges such as traversing fire stops (which can add hundreds, even thousands of dollars), and maintenance.

Q. DOES THE PROCESS YOU DESCRIBED MEET THE REQUIREMENTS OF THE TRO?

A. No. The FCC stated "we have also determined that an incumbent LEC's failure to *provide* cross-connections between the facilities of two competitive LECs on a timely basis can result in impairment." TRO ¶ 514 (emphasis added). The expensive and cumbersome process described above merely permits CLECs to cross-connect to each other; BellSouth does not *provide* the cross-connections.

3. CLEC-to-CLEC Migrations

Q. YOU MENTIONED THAT ANY BATCH PROVISIONING PROCESS MUST ADDRESS CLEC-TO-CLEC MIGRATIONS. WHAT ARE THE CONCERNS THAT ARISE WHEN A CUSTOMER SWITCHES FROM ONE CLEC TO ANOTHER?

A. As the mass market matures, migrations between CLECs will occur more frequently. Currently, there are no standard or agreed-upon processes or intervals between CLECs for responding to requests for information such as customer service records and other customer transition information that is needed to create service orders. Similarly, there are no standard processes for order status responses, such as FOCs and rejections. Further, the in-depth procedures needed for migrating the customer are lacking or ill-defined. For example, items as basic as agreed-upon intervals for migrating a customer from one CLEC to another have not been established. In addition, the ILEC will have to be involved in all hot cuts because it performs the necessary loop transfers and manages directory listing changes. However, requests to have the ILEC transfer the loop from one CLEC to another must be submitted to the ILEC manually, adding delay, error, and expense.

Accordingly, efficient processes must be developed for both the "winning" and the "losing" CLECs so they can place orders with the ILEC and interact with each other and the ILEC to have customers efficiently migrated. Without these improvements, the current lack of efficient and equitable ordering and provisioning processes for CLEC to CLEC hot cut migrations will create more delay, customer confusion, expense, and customer outages in the industry. In contrast, a CLEC to CLEC migration using UNE-P requires only an electronic order from the CLEC acquiring the customer. The CLEC losing the customer electronically receives or obtains a line loss report.

Further, BellSouth specific practices are deficient. For example,, BellSouth requires that local service requests to move a UNE loop from one CLEC to another be submitted manually. Other problems include: ***Begin Confidential--[redacted] End Confidential***

Q. DOES BELLSOUTH INCLUDE CLEC TO CLEC MIGRATIONS IN ANY BATCH PROCESS?

A. It is unclear whether BellSouth will include CLEC to CLEC migrations in its batch process in Kentucky.

C. Any Batch Process Must Address Wholesale Switching

Q. ARE CLECS ABLE TO OBTAIN LOCAL SWITCHING FROM THIRD PARTIES?

A. No. BellSouth's policies, practices, and systems effectively prevent a CLEC from being able to order a loop from BellSouth and switching from another CLEC, thus precluding CLECs from purchasing alternative local switching from wholesalers. For example, 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.

Q. WHAT IS REQUIRED FOR A CLEC TO BE ABLE TO ORDER A LOOP FROM BELLSOUTH AND WHOLESALE SWITCHING FROM ANOTHER CLEC?

A. Under today's processes, a CLEC sends BellSouth a Local Service Request ('LSR") that tells BellSouth, among other things, three critical pieces of information: (1) "who I am," (2) "where I want your service delivered," and (3) "where to send my bill." An LSR contains

many fields into which the CLEC will insert the necessary information or codes to convey this information. Various industry groups and standards provide guidance as to the fields and codes used on an LSR, but BellSouth determines how the information will be used by its systems and in its databases after the LSR has been received.

As part of its "who I am" information on its LSR, the CLEC must provide BellSouth with its Access Customer Name Abbreviation ("ACNA"). The ACNA identifies who is to be billed for the services (*i.e.*, the loop) ordered. As part of its "where I want your service delivered" information on its LSR, the CLEC must also provide BellSouth with an Access Customer Terminal Location ("ACTL").[24] The ACTL identifies the location where BellSouth's loop is to be delivered for connection with a CLEC's equipment. Accordingly, the ACNA tells BellSouth "who I am" and the ACTL tells BellSouth "where I want your service delivered."

Q. HOW DOES A PROBLEM ARISE?

A. BellSouth currently requires that the ACNA or "who I am" of the CLEC ordering service from BellSouth be the *same* as the ACNA associated with the ACTL or "where I want your service delivered" code. This requirement effectively precludes a CLEC from ordering a loop from BellSouth and connecting it to the collocation arrangement of a different CLEC in order to use that CLEC's switch.

[24] "Where I want your service delivered" codes are actually address information. The principal "code" used for these purposes is the Common Language Location Identifier ("CLLI"), which is either 8 or 11 characters long and is developed in accord with guidelines provided by Telcordia, which also keeps the master CLLI Database. Each CLLI has an "owner," and that owner is identified in the CLLI Database by the owner's Interexchange Access Customer code, or ACNA. This CLLI code is used to populate the Access Customer Terminal Location ("ACTL") field. Connecting Facility Assignment ("CFA"), Cable Identification ("Cable ID"), and Channel or Pair Identification ("Chan/Pair") are another group of "codes," which, while they are different items, are commonly referred to as CFA. All tell BellSouth the actual physical point where it is to deliver its services to the CLEC. Often the terms ACTL and CFA are used interchangeably to represent this physical point of interconnection.

Q. IS THERE ANY INDUSTRY REQUIREMENT THAT A CLEC ORDERING SERVICE TO BE DELIVERED TO A SPECIFIC LOCATION BE THE OWNER OF THAT LOCATION?

A. No. However, BellSouth's systems improperly include edits that require that the ACNA ("who I am") associated with the ACTL ("where I want your service delivered") on an order must match the ACNA submitted on the order. If United Parcel Service were to use the same concept or edit, they would be telling you that you can only send packages to your own address.

Q. HOW DOES AT&T KNOW THIS PROBLEM EXISTS AT BELLSOUTH?

A. AT&T has experienced this problem in the limited cases in which it has ordered UNE loops from BellSouth. AT&T, because of its acquisition of TCG, owns collocations that were built pursuant to TCG's agreement with BellSouth as well as collocations that were built under AT&T's direct agreement with BellSouth. The codes used to describe TCG collocations are labeled "TPM" and the codes for the AT&T collocations are labeled "ATX." When an order sent to BellSouth using the "TCG" label seeks to purchase an unbundled loop from BellSouth and wants it directed to an AT&T collocation that is labeled "ATX," BellSouth's systems cannot electronically process the order.

Q. HOW WILL THIS PROBLEM AFFECT THE INDUSTRY AS A WHOLE?

A. BellSouth's systems currently look for a match between the codes for "who I am" and "where I want your service delivered." When these codes do not match, these orders fall out for manual handling. BellSouth has in the past addressed this problem for AT&T with a manual work-around that assigned a secondary code to identify all the collocations as belonging to AT&T. However, BellSouth has recently indicated to AT&T that "BellSouth

has no plans to continue to service orders that require manual processing" caused by the use of multiple company codes, and reiterating its previous recommendation that AT&T pay for a mechanization upgrade to "allow multiple ACNA orders to flow-through BellSouth's systems without manual intervention".[25] This work-around (at best) or outright refusal to process orders (at worst) obviously will not be sufficient in a world in which CLECs may choose to purchase unbundled local switching from each other or from wholesale providers. CLECs must be able to order a loop and have that loop delivered to someone else's collocation space.

Q. HAS BELLSOUTH BEEN ABLE TO DEMONSTRATE AT ANY TIME DURING THE AT&T/BELLSOUTH DISCUSSIONS THAT ITS POSITIONS ARE SUPPORTED BY INDUSTRY STANDARDS OR TECHNICAL INFEASIBILITY?

A. No. In fact BellSouth's correspondence clearly states that its positions are based exclusively on its self-generated policy. Exhibit MDV-17 is a June 20, 2002 letter from Mr. James M. Schenk of BellSouth to Mrs. Denise Berger of AT&T. In this letter Mr. Schenk states:

> "It is BellSouth's policy not to accept assignments from CLECs other than the owner of the collocation space and associated cable assignments. Therefore, BellSouth's ordering and provisioning systems contains edits to prevent unauthorized assignment of its customer's collocation assets." (Letter, page 1)

Q. WHAT SHOULD THE COMMISSION DO TO SOLVE THIS BELLSOUTH CAUSED PROBLEM?

A. BellSouth unilaterally placed itself in the role of CLEC "asset policeman" implementing edits that are not required by any industry guidelines and that needlessly restrict CLECs' ability to do business in BellSouth's region. Having established these

[25] See Exhibit MDV-20-July 18, 2003 letter from Jim Schenk of BellSouth to Denise Berger of AT&T.

needless edits, BellSouth then declared all transactions that fail to pass its self-defined edits are "out of process" when in fact it is the edits themselves that are unjustified. BellSouth must have in place policies that do not impede competition. It should be required to delete these unnecessary edits. Moreover, any batch provisioning process must contemplate and provide for CLECs that want to use a third-party's switch.

D. Operational Constraints That Will Be Created If All Migrations Require UNE-L Conversions

Q. ARE THERE NEW OPERATIONAL CONSTRAINTS THAT WILL ARISE IF ALL UNE-P CUSTOMERS ARE MIGRATED TO UNE-L?

A. If UNE-P is no longer available to CLECs, there will be significant changes in traffic patterns and the items CLECs order from BellSouth. As a result, BellSouth's network may have insufficient capacity in certain instances and surplus capacity in others. Two specific examples are trunking and collocation space.

Q. WHAT IS TRUNKING?

A. The transport pathways that carry calls from switch to switch are called interconnection trunks. Within the local network, such trunks connect BellSouth's central office switches, CLEC switches to BellSouth switches, and may connect BellSouth's central office switches to tandem switches. Tandem switches often are used by ILECs to serve as a connector between central offices. Tandems are used because it is not always efficient to connect each central office to every other central office or to connect these offices for their full complement of traffic during peak times. In such cases, the ILEC will connect the central offices to a tandem switch. Traffic may flow from any central office switch to the tandem and then from the tandem to any other switch in the network.

Q. HOW WILL TRUNKING BE AFFECTED IF ALL MASS MARKET CUSTOMERS MUST BE SERVED USING UNE-L?

A. Many trunks will be over utilized while some may be under utilized. To understand these impacts, the Commission must first recognize that, with UNE-P, all traffic travels on BellSouth's transport network. If BellSouth connects Central Office 1 with Central Office 2 using direct trunking, all calls between those switches will generally travel through that trunk without every passing through a tandem switch. If, however, all CLECs must provide service using their own switches, those switches will principally be connected to BellSouth's network using BellSouth's tandem switches, because the CLEC does not have the economies of scale to connect directly to each and every BellSouth local switch. Accordingly, nearly every call from a CLEC customer, whether to a BellSouth customer or to another CLEC's customer will have to pass through trunks connected to BellSouth tandems. When a trunk is carrying its total capacity for calls, the next call is blocked which means the customer gets a "fast busy" signal and the call cannot complete. If all UNE-P customers are migrated to UNE-L, significant blocking of trunks connected to the tandem or tandem switching congestion can be expected. Accordingly, the Commission must investigate the effects that forcing traffic onto UNE-L may have on BellSouth's tandem and interconnection facilities, to assure that CLEC customers' quality of service would not be degraded if CLECs no longer have access to UNE-P.

Conversely, in some cases, interconnection trunks between BellSouth central office switches may be under utilized. Because calls to and from CLEC customers will travel through BellSouth's tandem switch, there will be less demand for the shared transport between BellSouth's central office switches. However, the extra capacity there cannot be redeployed to accommodate this shift in traffic patterns.

Q. WHAT OTHER OPERATIONAL CONSTRAINTS WILL ARISE?

A. If unbundled local switching is no longer available to competitors, all competitors will have to install their own facilities in collocation space. For example, at least 160 of BellSouth's central offices in Kentucky have UNE-P service but no collocated CLECs. (See Exhibit MDV-19). It is unclear whether BellSouth will be able to accommodate the dramatic increase in the space that will be needed as CLECs expand existing collocations or when new CLECs that were formerly UNE-P only providers seek to install equipment. At the very least, the interval to obtain and build out collocation space likely will increase. At the worst, sufficient space may not be available, especially in remote central offices that are generally very small in size.[26]

Q. ARE THERE OTHER ISSUES RELATED TO BATCH CUTS THAT THIS COMMISSION WAS DIRECTED TO CONSIDER?

A. Yes. The FCC also directed state commissions to consider whether (or the extent to which) temporary or "rolling access" to UNE-P would address all identified impairment. TRO ¶ 524. Rolling access to UNE-P is clearly not adequate to "cure" the many operational and economic issues for the reasons described in this and other AT&T testimony. For example, rolling access would not alleviate service outages caused by hot cuts; it would not resolve the economic impairment that results from the collocation, digitization, concentration

[26] The FCC identified available collocation space as an issue. TRO ¶ 513. "We find that the absence of sufficient collocation space in the incumbent central office or offices might in some markets render competitive entry impossible and thus result in impairment. We therefore direct the state commissions to consider evidence concerning the costs and physical constraints associated with collocation in a particular market. We direct state commissions to consider whether competitive entry is inhibited, or is likely to be inhibited going forward, by the exhaustion of available collocation space in the incumbent LEC's central offices. Evidence relevant to this inquiry would include, for example, the amount of space currently available in those central offices; the expected growth or decline, if any, in the amount of space available; and the expected growth or decline, if any, of requesting carriers' collocation space needs, assuming that access to unbundled switching were curtailed. The state commissions shall consider this factor in determining whether to find that requesting carriers are not impaired without access to unbundled local circuit switching."

and backhaul costs that a CLEC must incur to connect the ILEC loop to its switch; it would not correct the inefficiencies and errors created by the manual hot cut provisioning; and it would not overcome the capacity constraints which are created by the volumes of hot cuts required and exacerbated by scenarios such as IDLC, line splitting and CLEC-to-CLEC migrations. Moreover, even if such rolling access were ordered by the Commission, it must allow the CLEC to acquire the customer using UNE-P before moving it to a UNE-L/CLEC switch network configuration as AT&T is not aware of any methodology for transferring "batches" of customers that would not require the customers to first be acquired by the CLEC.[27] Further, as acknowledged by the FCC, "competitive LECs may face difficulties in accumulating enough customers to justify batch line migration processing *in both new central offices* and existing collocations." *Id.* ¶ 522 (emphasis added). Any such process must also include sufficient time for CLECs to accumulate enough customers to justify collocation, and enough time to then establish the collocation in new central offices. That said, even with these minimal requirements, such a process still would not address the operational and economic problems identified.

IV. AT&T'S RECOMMENDATIONS

Q. DID THE FCC IDENTIFY A STANDARD AGAINST WHICH AN ILEC'S HOT CUT PROCESS SHOULD BE MEASURED?

A. Yes. In describing a hot cut process that demonstrated "consistently reliable performance," the FCC recognized that for the migration of customers, UNE-P should be the

[27] The FCC stated that "we find that the availability of unbundled local switching -- even on a temporary basis -- may enable competitors to acquire customers, aggregate them, and migrate them to the carriers own switch in a manner *that would not be feasible if the customers each had to be migrated individually* upon signing up with the competitive LEC. TRO ¶ 522 (emphasis added)."

standard of performance. It stated: "This review is necessary to ensure that customer loops can be transferred from the incumbent LEC main distribution frame to a competitive LEC collocation *as promptly and efficiently as incumbent LECs can transfer customers using unbundled local circuit switching*." TRO at n. 1574 (emphasis added). Thus, the appropriate comparison must be whether the ILEC can move customers served by UNE-L at the same volumes and performance levels as UNE-P. This is perfectly logical, since CLECs would be forced to abandon UNE-P and substitute UNE-L if they are denied access to unbundled local switching.

Moreover, such a standard is required in order to provide parity to all carriers that seek to provide a bundle of both local and long distance services to mass market customers. ILECs today can (and do) add large numbers of long distance customers through the electronic PIC process, which is very comparable to the electronic OSS used to provide UNE-P service. If CLECs cannot have the same ability to add local customers, they are seriously impaired in their ability to provide similar bundled offers. Indeed, the RBOCs themselves have recognized that the ability to offer such bundles is a major competitive advantage in fending off CLECs and/or winning back CLEC local customers. Further, since the FCC's impairment standard requires a review of all costs and revenues a CLEC would incur, including long distance, CLECs must have the same ability to offer local/long distance bundles as the ILEC.

Q. WHAT CHARACTERISTICS SHOULD BE INCLUDED IN ANY BATCH CUT PROCESS CONSIDERED BY THIS COMMISSION?

A. While any batch process will very likely continue to contain too much manual work to significantly reduce the economic and operational impairment, the development of a batch

cut process by this Commission would be of some benefit to competition, because it would facilitate CLECs' use of non-ILEC facilities in the limited situations where it is otherwise feasible to do so. The process should, at a minimum, address the following:

OVERALL

- As an initial matter, because it is based primarily on manual work, the batch process should be recognized as an interim solution with limited opportunities for improvement over the current individual hot cut process. Therefore, to more effectively reduce CLEC impairment, the Commission should develop a plan with specific time frames to move to an electronic solution that requires fundamental changes to the ILECs' network architecture that currently creates operational and economic barriers to competitive entry to serve mass market customers.

- Any hot cut issue raised by any party that is not solved through the development and implementation of a batch process should be documented for further review by the Commission.

APPLICABILITY/SCOPE

- The batch process must include all mass market (residential and small business) customers, all types of loops used to serve such customers, and all types of transfers between all LECs. Thus, the process should be insensitive to the identity of the previous carrier and the technology that carrier uses to provide service. In addition, the process should not require CLECs to perform any pre-order activity to "qualify" that an unbundled loop can be migrated. In addition to existing UNE-P customers served over copper, UDLC, and NDGLC, at a minimum, the process must apply to:

    - IDLC loops
    - UNE-L based line splitting
    - CLEC to CLEC migrations

VOLUME/CAPACITY

- The batch process must support efficient migration of a sufficient quantity of bundled loops (equivalent to LD PIC changes/UNE-P volumes/churn of ILEC win-backs/CLEC to CLEC) to support a fully competitive mass market at quality levels no less than the UNE-P alternative that would be removed.

- Size of batch

    - The batch should be sized to permit the CLEC and ILEC to achieve cost efficiencies.

- The batch (as well as the number of batches per day) should be sized to accommodate the overall number of migrations required to achieve the scale needed to handle mass volumes.

PROCESS REQUIREMENTS

- The batch process must operate in conjunction with an existing electronic customer acquisition process (*i.e.*, UNE-P).

- To facilitate a workable transition of customers between CLECs, the customer should first be migrated to UNE-P as a bridge between the UNE-L setup of each CLEC.

- The ILEC should provide CLECs the capability to identify which UNE-P customers/lines are eligible for a batch on a mechanized and batch basis (*e.g.*, the CLEC should not be required to do one-by-one prospective queries to determine if the conditions necessary to include a specific line in a batch are or are not met). The ILEC should also establish the electronic ability to provide a specific batch of potential telephone numbers to a CLEC when the conditions for a batch have been met.

- After receiving the notification from the ILEC that the conditions for a batch cut over are met, the CLEC must have sufficient lead-time to advise its customers of the need to reprogram features such as voice mail and speed dialing, and in appropriate cases sufficient lead-time to prepare its collocation equipment, switching equipment and/or technician time so the CLEC can accept the loops to be transferred.

- The CLEC should have the ability to schedule hot cuts and batch hot cuts at any point in a twenty-four hour day with the costs insensitive to the scheduled time of the hot cut (as in an electronic system such as UNE-P).

- "Batches" should be CLEC specific, *i.e.*, each "batch" should only apply to one CLEC.

- The batch process must be developed to provide equivalent OSS functionality to UNE-P transactions, including:

  - Equivalent electronic pre-ordering and ordering capability
  - Equivalent levels of flow-through for ordering and provisioning systems to increase accuracy and lower costs.
  - One LSR per migrating UNE-P customer / account
  - Directory Listings must remain AS-IS when converting from UNE-P to UNE-Loop

- Real-time electronic notification must be available for order status, testing status, and notification of individual loop cut completion.

- The Commission should include in its analysis the feasibility of interim automation of hot cut provisioning as part of the batch process.

CUSTOMER CARE

- There must be a self-executing process to immediately switch customers back to UNE-P if an individual cut fails, with follow-up electronic communication from the ILEC to the CLEC indicating the cause of the failure, how the ILEC will remedy the failure and when the customer can be migrated to an unbundled loop. The rolling interval for affected loops/customers should restart.

ECONOMIC

- The batch process design must result in significant cost reduction for all involved parties.

VALIDATION, TESTING AND QUALITY ASSURANCE

- ILECs must prove they have systemic capability to handle the provisioning of hot cuts at volumes anticipated across all its markets in the absence of unbundled local switching. Therefore, once designed, the batch cut process must be subject to both pre-implementation and post implementation testing. Pre-implementation testing should include third party "time and motion" study of the hot cut process, and third party-monitored ILEC testing using its own collocation and migration of significant numbers of its own customers through hot cuts from direct connection to its switch to its collocation equipment installed to operate as a pseudo-CLEC specifically for this test. Post-implementation "testing" would include on-going commission review to determine if the batch hot cut process meets the needs of commercial mass markets in a manner that permits effective and efficient competition.

- The Commission must direct the ILEC to investigate, report and eliminate any negative impacts of large scale migration from UNE-P to UNE-L from the following:

    - E-911 "unlocks"
    - Number porting
    - Availability of repair testing capabilities
    - Repair databases
    - Billing system migrations, such as from Carrier Access Billing System ("CABS") to Customer Record Information System ("CRIS")
    - Provisioning systems such as Trunks Integrated Records Keeping System ("TIRKS")
    - Directory listing and assistance

- The Commission must direct the ILEC to investigate, report and eliminate any negative impact of large-scale migration from UNE-P to UNE-L on local network interconnection trunking and tandem performance.

- The Commission must direct the ILEC to report at a central office level the current number of working IDLC access lines and the spare parallel copper or UDLC facilities available to migrate these lines to, should the customer wish to change their local service provider. It should also provide its plans to provide an unbundled loop when spare parallel copper or UDLC facilities are not available.

- The process must include a method to insure CFA inventories between and among ILECs and CLECs are initially accurate and remain reconciled.

- Competitors must be guaranteed easy access to collocation sites, including the right to use reasonably qualified contractors (*i.e.*, ILEC should not be allowed to dictate the identity of contractors, provided they meet a reasonable skill set)

PERFORMANCE STANDARDS AND ASSURANCE

- Batch cut and other associated loop performance standards should be equivalent to performance for migrating a customer from retail to UNE-P.

- Key performance measurement factors must be in place:

    - Continue to measure at the most granular level feasible for each activity (FOC, rejection, missed appointment, cuts on time, service outage, etc.)
    - Create new measures for key activities unique to batch process, e.g. per centage of batches started on time and completed on time.
    - Eliminate current exclusions in performance measures for projects/batches
    - Create, if not currently in place, measures for % service outages during conversion, and average recovery time of outages
    - Revise/establish benchmarks to drive performance that protects end-users

- Self-executing financial consequences must be in place for ILEC failures to meet required performance standards. For all conversion service outages, these consequences should be commensurate with the average net revenue times the average life of the customer

Following are additional requirements should the Commission establish only temporary access to UNE-P:

- To mitigate customer confusion and frustration with the double migration that would occur if UNE-P were only available on a temporary basis, all of the features offered by the incumbent LEC should be made available to the CLEC at TELRIC rates. By doing so, customers would not be forced to change their programmable features such as speed dialing and voice mail multiple times during this rolling acquisition process.

- There must be exceptions to any established time limits that customers may remain in UNE-P "acquisition mode" pending placement into a batch for transition to UNE-L. These include:

    - The time needed to add new CLEC equipment (*e.g.*, DLC in collocation) or to augment CLEC facilities (e.g. transport) when the expansion or augmentation is not complete for reasons beyond its reasonable planning or control
    - The time needed to augment collocation space
    - Cases of ILEC collocation space exhaust
    - The ILEC's inability to migrate customers to UNE-L within prescribed time frames
    - ILEC failure to meet non-discriminatory service standards

Q. WHAT INFORMATION DOES THIS COMMISSION REQUIRE FROM THE ILEC TO DETERMINE IF ITS HOT CUT PROCESS IS SUFFCIENTLY SCALABLE TO SERVE THE MASS MARKET?

A. AT&T believes it is clear from available information that BellSouth's current hot cut process capability, demonstrated by its own data, is not capable of supporting mass market competition. However, in conducting any assessment of the capacity of BellSouth's hot cut process (quantity) along with adequate quality, it is essential for BellSouth to provide the following information, with appropriate and adequate supporting detail, so that the Commission can ascertain the relative capability BellSouth has to provision service to mass market customers:

1. Proof that a neutral, third-party, valid time and motion study has been conducted to determine the time it takes to perform all of the steps necessary on the frame to perform a hot cut, and that volume testing has also been conducted.
2. Determination of the ILEC's maximum daily hot cut throughput based on the output of the time and motion study and its current staffing levels.
3. The ILEC's estimate of the daily hot cut volumes it will face in a non-UNE-P environment and the supporting details on how it arrived at this estimate.
4. The ILEC's human resources strategy specifically outlining the number of additional people it will need and how it plans to recruit, hire and train these additional people.
5. Outputs from a third party-monitored ILEC testing using its own collocation and migration of significant numbers of its own customers through hot cuts from

direct connection to its switch to its collocation equipment installed to operate as a pseudo-CLEC specifically for this test.

6. The ILEC's plans for converting the embedded base of UNE-P customers while continuing to perform its normal day-to-day frame work.
7. Disclosure of an inventory of its access lines on IDLC facilities and the amount of spare copper/UDLC facilities that these lines can be migrated to.
8. Disclosure of an inventory of the collocation space readily available in each central office in Kentucky and its plan for how it will support the additional requests it could be expected to receive for new collocation arrangements and augments to existing arrangements, together with the impacts that this plan will have on existing collocation intervals.
9. The ILEC's plans for how it will expand its tandem switching and associated transport network to accommodate all of the additional traffic it will be receiving from the CLEC switches.
10. The ILEC's plans for deploying new technologies to eliminate the manual efforts associated with a hot cut.
11. The metrics that the ILEC proposes that the Commission use to monitor its performance.

Moreover, the answers to these questions alone do not adequately describe what capacity or scalability means. In a fully competitive market, carrier changes occur in multiple directions: from ILEC to a CLEC, from a CLEC to an ILEC, from a CLEC to another CLEC. Mass-market scalability means that the ILEC can manage all of these types of transactions over its entire geographic footprint each day and every day. That is a substantial task that is being achieved in the long distance market using the PIC process and in the local market today using UNE-P. Further, as the TRO economic impairment test requires CLECs to use a model that includes both local and long distance revenues, failure to have comparable processes for use by ILECs and CLECs for both local and long distance will result in significant impairment to CLECs.

The ILECs should not be allowed to respond to this absolutely critical issue with vague assurances that its processes are scalable or otherwise capable of supporting mass

market UNE-L competition.[28] Both central office specific and statewide analysis, documentation and testing is necessary, and the benchmark adopted must demonstrate BellSouth's ability to perform sufficient volumes to support a fully competitive market at the same performance level as UNE-P, in order to ensure robust mass market competition.

Q. IF THIS COMMISSION ORDERS, AND THE ILEC SUCCESSFULLY IMPLEMENTS, THE BATCH HOT CUT PROCESS AT&T REQUESTS, WILL THAT SUFFICIENTLY ADDRESS IMPAIRMENT ISSUES?

A. No. Although a batch process, if properly designed and performing at levels and volumes equivalent to UNE-P would address many specific operational impairment concerns, new operational issues are likely to arise as discussed above. And even if the BellSouth charges for hot cuts were reduced, that would affect only one of many additional costs that only CLECs face in attempting to provide service using non-ILEC switches. *See* Direct Testimony of AT&T Witness Steven E. Turner.

Q. ONE OF THE ISSUES THE FCC ASKED STATE COMMISSIONS TO ADDRESS WAS THE VOLUME OF LOOPS THAT SHOULD BE INCLUDED IN A BATCH. WHAT IS THE NUMBER OF HOT CUTS BELLSOUTH SHOULD BE ABLE TO RELIABLY PERFORM IN A GIVEN TIMEFRAME?

A. As described earlier in my testimony, based on its analysis of available data, AT&T has grave concerns regarding BellSouth's capability to perform at the volumes required to support the mass market. I also described the capacity standards (equal to level of long distance competition) that AT&T believes the Commission should require the ILEC to

[28] *See TRO* n. 1437 ("We find, however, incumbent LECs' promises of future hot cut performance insufficient to support a Commission finding that the hot cut process does not impair the ability of a requesting carrier to provide the service it seeks to offer without at least some sort of unbundled circuit switching. While incumbent LECs state that they have the capacity to meet any reasonable foreseeable increase in demand for stand-alone loops that might result from increased competitive LEC reliance on self-provisioned switching, there is little other evidence in the record to show that the incumbent LECs could efficiently and seamlessly perform hot cuts on a going-forward basis for competitors who submit large volumes of orders to switch residential subscribers.")

achieve. For example, if 2.1% of the Kentucky access lines change long distance carriers each month, then the ILECs' process for migrating local customers should also accommodate the same percentage churn for local loops.

Based on the volumes of hot cut orders the Commission determines that the ILEC be required to perform per day to facilitate mass market competition, it should then establish batch sizes and numbers of batches per day sufficient to permit the required volume of transactions to occur.

Q. WHAT MUST THIS COMMISSION ORDER IN TERMS OF IMPLEMENTING ITS APPROVED HOT CUT PROCESS?

A. The FCC directed state commissions to "approve *and implement"* a batch cut migration process. TRO ¶¶ 423, 460 (emphasis added). Thus, this Commission must do more than simply order BellSouth to design a process; it must test BellSouth's process until it is proven to work. Otherwise, the Commission will have failed its task of approving "a seamless, low-cost process for transferring large volumes of mass market customers." *Id*. at ¶ 423.

Q. GIVEN THAT THE IMPROVEMENTS THAT CAN BE MADE TO THE CURRENT MANUAL PROCESS ARE ALMOST CERTAINLY INADEQUATE TO OVERCOME THE ECONOMIC AND OPERATIONAL IMPAIRMENTS IDENTIFIED BY THE FCC, WHAT OTHER SOLUTIONS SHOULD THIS COMMISSION CONSIDER?

A. As discussed above, the FCC found, on a national basis, that CLECs are impaired in their ability to provide local exchange service because, among other things, of the expense, delay and service degradation caused by the current, manual hot cut process. This should logically prompt state regulators to question whether, in an age of digital processing, any

manual, labor-intensive, and error-prone system for loop migration will ever be efficient enough, both economically and technically, to support robust local exchange competition.

There is a means available that uses currently available technology and allows the provisioning of loops to be operationally and competitively neutral, making it the local service counterpart of "equal access" in the long-distance market. This is a process that AT&T has generically referred to as "electronic loop provisioning" ("ELP"). In this environment, consumers would be able to change their local carrier seamlessly, and no carrier would have inordinate advantages in competing for a mass market customer's business. This is in sharp contrast to the current, hard-wired, manual connections from customer premises to ILEC central offices described in the accompanying testimony of Jay Bradbury. Implementation of such an electronic provisioning process would create permanent virtual circuits that could use software commands to shift loops from one carrier to another quickly and inexpensively, with no loss or degradation of service. Thus, the Commission should consider whether the use of ELP -- or some other automated process -- is necessary to place all competitors on an equal footing in their ability to provide service using mass market loops and CLEC-provided switching.

V. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The process of migrating customers to a CLEC-owned switch using an ILEC loop, the so-called "hot cut process," is extremely dependent on manual work, rendering the process prohibitively expensive, highly error prone, and not scalable to handle reasonable commercial volumes. As such, CLECs will remain impaired by any manual hot cut or loop

migration process. Even the best manual processes that could be operationalized today, including batch migration processes, cannot satisfy the requirements needed to eliminate the CLECs' operational impairment in attempting to compete for mass-market customers. Accordingly, this Commission should develop and approve a comprehensive process but should test and implement that process carefully to evaluate the extent to which CLECs remain impaired. At the same time, this Commission should encourage development of a process that automates the transfer of end-user loops. Any migration process that does not automate the transfer of end-user loops, eliminating the need for manual "hot cuts," cannot sustain competitively unconstrained migrations of customers among all carriers, both CLECs and ILECs alike. In order to establish and sustain competitively unconstrained migrations of customers among all carriers, an electronic process for loop provisioning must be made available which is as easy, efficient, and reliable as the UNE-P provisioning process for local customers and the PIC change methodology in place for long distance.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.