Supra Telecom

1311 Executive Center Drive, Suite 220
Tallahassee, FL 32301-5027

Telephone: (850) 402-0510
Fax: (850) 402-0522
www.supratelecom.com

ORIGINAL

RECEIVED-FPSC
04 OCT -8 PM 4:56
COMMISSION
CLERK

October 8, 2004

Mrs. Blanca Bayo, Director
Division of Commission Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

RE: Docket 040301 –TP
SUPRA'S REBUTTAL TESTIMONY OF DAVID A. NILSON

Dear Mrs. Bayo:

Enclosed is the proprietary version of Supra Telecommunications and Information Systems, Inc.'s (Supra) Rebuttal Testimony of David A. Nilson with exhibits to be filed in the above captioned docket. Some of the Exhibits are deemed proprietary and thus are submitted in sealed envelopes. The public version of Supra's testimony will be filed on October 11, 2004. Supra has conferred with both BellSouth and Staff, and all parties are agreeable to this arrangement.

A copy of this letter is enclosed. Please mark it to indicate that the original was filed and return it to me.

Sincerely,

Brian Chaiken/stw

Brian. Chaiken
Executive V.P. Legal Affairs

DOCUMENT NUMBER-DATE
10905 OCT-8 04
FPSC-COMMISSION CLERK

CERTIFICATE OF SERVICE
Docket No. 040301-TP

I HEREBY CERTIFY that a true and correct copy of the following was served via Facsimile, E-Mail, Hand Delivery, and/or U.S. Mail this 8th day of October 2004 to the following:

Jason Rojas/Jeremy Susac
Office of the General Counsel
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Nancy White
c/o Ms. Nancy H. Sims
BellSouth Telecommunications, Inc.
150 South Monroe Street, Suite 400
Tallahassee, FL 32301-1556

SUPRA TELECOMMUNICATIONS
& INFORMATION SYSTEMS, INC.
2620 S. W. 27th Avenue
Miami, FL 33133
Telephone: 305/ 476-4248
Facsimile: 305/ 443-1078

Brian Chaiken/ stw

By: Brian Chaiken

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 36

BellSouth 's UNE-p to UNE-L Bulk Migration
Updated 06/06/2002

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 37

BellSouth's Outside Plant – May 7, 2004

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 38

Deposition Testimony – Daonne Caldwell

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 39

Deposition Testimony – Kenneth Ainsworth

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 45

Supra's Group 1 Cost Study – Copper UDLC UNE-P to UNE-L FL-2w.xls

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 46

Supra's Group 2 Cost Study – IDLC served UNE-P to Copper UDLC UNE-L FL-2w.xls

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 47

Supra's Group 3 Cost Study – NGDLC UNE-P to NGDLC Virtual Terminal UNE-L FL-2w.xls

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 48

Supra's Group 4 Cost Study – INA or other DCS served IDLC UNE-P to UNE-L FL-2w.xls

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 49

Supra's Group 4 Cost Study –IDLC UNE-P to Switch Side Dorr UNE-L FL-2w.xls

CONFIDENTIAL

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 50

10/08/2004 – BellSouth WORST CASE NRC Cost Study –
Created by Supra from the 10/08/2001 A.1.1 and A.1.2
NRC cost study of loops served by Copper/UDLC

CONFIDENTIAL

SUPRA TELECOMMUNICATIONS & INFORMATION SYSTEMS, INC.

DIRECT TESTIMONY OF DAVID A. NILSON

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NOS. 980649-TP

AUGUST 1, 2000

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 40
Direct Testimony of David A. Nilson – Dkt 990649

Q. PLEASE STATE YOUR NAME AND ADDRESS

A My name is David A. Nilson. My address is 2620 SW 27th Avenue, Miami, Florida 33133.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPICITY?

A. I am the Chief Technology Officer of Supra Telecommunications and Information Systems, Inc. ("Supra Telecom").

Q. PLEASE DESCRIBE YOUR BACKGROUND AND WORK EXPERIENCE.

A. I have been an electrical engineer for the past 26 years, with the last 22 years spent in management level positions in engineering and quality, and regulatory departments. In 1976,after spending two years working in the microwave industry producing next generation switching equipment for end customers such as AT&T

long lines and ITT, I was part of a three-man design team that produced the world's first microwave integrated circuit. This job involved extensive work with various government agencies. At that time, our design was considered the "holy grail" of the microwave industry and was placed in production for AT&T within 30 days of its creation. This job also involved communications equipment design work with various government entities covered by United States Departments of Defense security restrictions. I spent several years in quality control management, monitoring and trouble-shooting manufacturing process deviations, and serving as liaison and auditor to our regulatory dealings with the government. I spent 14 years in the aviation industry designing communications systems, both airborne and land-based, for various airlines and airframe manufacturers worldwide. This included custom designed hardware originally designed for the Pan American Airlines call centers, and the HF long range communications system controllers used on Air Force One and Two and other government aircraft. In this job I was also responsible for validation design testing and FAA system conformance testing. Since 1992 I have been performing network and system design consulting for various industry and government agencies, including the Argonne National Laboratories. I am the principal architect of Supra's ATM backbone network and our central office design.

Q. HAVE YOU EVER PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes, I testified before this Commission in numerous generic dockets and in various disputes between Supra Telecom and BellSouth.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address the issues identified in this proceeding, including the following previously identified issues set forth on the list of issues: 1, 2(a), 2(b), 3(a), 3(b), 4(a), 4(b), 10, 11 and 12.

Q. WHAT FACTORS SHOULD THE COMMISSION CONSIDER IN ESTABLISHING RATES AND CHARGES FOR UNES (INCLUDING DEAVERAGED UNES AND UNE COMBINATIONS)?

A. Under the TELRIC model and the FCC's pricing rules found in 47 C.F.R. §§ 51.503 - 51.513, this Commission should only consider a forward-looking network design based upon the most efficient technology currently available, with the cost of such equipment and assets being spread out (or amortized) over the economic or true useful life of the equipment.

Notwithstanding the Eighth Circuit's most recent ruling in Iowa Utilities Board, et al. v. Federal Communications Commission, Case No. 96-3321 (8th Cir., July 18, 2000), Supra Telecom believes that this Commission should continue pricing UNEs under the FCC'S previous methodology. Nevertheless, even if this Commission were to consider the Iowa Utilities Board case, the FCC's previous methodology would still provide significant guidance on pricing. For example, any new model should still be forward-looking, however under the Iowa Utilities Board case, current costs would be relevant, but only for as long as current equipment is being depreciated. Once the current equipment has been depreciated, the forward-looking model would require the ILEC to invest in the most efficient equipment and design available. This Commission is already deciding the issue of depreciation lives for various UNEs. The ILECs should be required to provide the current time in service of each and every piece of equipment comprising the UNEs to be priced. An average time in service should then be compared to the depreciation life established by this Commission for that UNE. To the extent the average time in service of the actual equipment is less than the established useful life, current costs would only be considered as a weighted-average of the remaining useful life. If it is discovered that the average equipment life is longer than the Commission's established useful life for the UNE, then the cost model should give no consideration to current costs (since by definition, the equipment is fully depreciated on a forward-looking basis and thus current costs would no longer be relevant).

In addition to the above, estimated costs should be based upon actual projected costs using the above assumptions. Thus, there should be no non-recurring costs imposed on situations where such a cost will never be incurred. For example, conversions of service "as is" require nothing to be changed and therefore the provision of servicing existing UNE loops and ports should incur no conversion costs. For recurring costs, the Commission must follow the assumptions made in the TELRIC model. Finally, consideration should be given to such real world considerations such as line-sharing; particularly, Digitally Added Main Lines (DAML) which are becoming more prevalent with time. DAMLs allow ILECs such as BellSouth to provide service to multiple customers over the same loop. When this actually occurs with an ALEC's customers, the ALEC should only be required to pay a pro-rata recurring cost for that loop. Real world considerations also exist for matters such as line conditioning, where the number of impediments on loops such as load coils and bridge-taps vary from loop to loop. In order to verify these potential costs and to accurately assess in advance the cost of providing service to any particular customer, it is important that ALECs be given full access to all technical information about the ILEC's network; including such databases as LFACS which provide detailed information about each loop and circuit path. To date, ILECs such as BellSouth have flatly refused to provide such information in order to prevent ALECs from knowing the actual cost associated with line conditioning. Therefore, in order to ensure the fair apportionment of costs, consideration must be given for real-world considerations.

Q. WHAT IS THE APPROPRIATE METHODOLOGY TO DEAVERAGE UNES AND WHAT IS THE APPROPRIATE RATE STRUCTURE FOR DEAVERAGED UNES?

A. The appropriate methodology for deaveraging UNEs is one that attempts to accurately assess the true potential cost of the UNE utilizing the TELRIC model assumptions as established previously by the FCC; and if necessary, as modified by the Eighth Circuit as previously described. Thus for example, under the TELRIC assumptions, there should be little or no difference in the cost of switching ports, regardless of where those ports are installed. However, with respect to loops, the true TELRIC cost of a loop depends primarily on its length. Therefore, loops should be deaveraged based upon loop length as opposed to wire centers. In this regard, loop lengths should be broken down into categories of shortest available loop length between connection points. Supra Telecom suggests the following categories of loop lengths: (a) 0 to 3,000 feet; (b) 3,001 to 6,000 feet; (c) 6,001 to 9,000 feet; (d) 9,001 to 12,000 feet; (e) 12001 to 15,000 feet; (f) 15,001 to 18,000; (g) 18,001 to 21,000 feet; (h) 21,001 to 24,000 feet; and (i) greater than 24,000 feet. Pricing of loops would be the same in each loop length category. Pricing would be accomplished by taking the total loop costs and apportioning that cost into each category on a weighted-average basis, using the median loop length of each category (and 25,500 for the last category) as the apportioning factor. Using the above suggested loop

length categories, subloops can be priced under this same methodology. Given the fact that current switching technology does not require load coils for extended loop lengths, all forward-looking loops should experience the same forward-looking costs regardless of the service being provided.

Q. FOR WHICH OF THE FOLLOWING UNES SHOULD THE COMMISSION SET DEAVERAGED RATES?

(1) LOOPS (ALL)

A. This Commission should set deaveraged rates for all loops, including subloops. All loops should be deaveraged based upon categories of loop lengths. Since current switching technology does not require load coils for extended loop lengths, all forward-looking loops should experience the same forward-looking costs regardless of the service being provided. Moreover, under the Eighth Circuit's recent ruling, current costs should also not cause any price differentiation with respect to the service being provided since any line conditioning costs would be recovered separately.

(2) LOCAL SWITCHING

A. This Commission need not set deaveraged rates for local switching since the cost of this UNE should be the same regardless of where the UNE is provided.

(3) INTEROFFICE TRANSPORT (DEDICATED AND SHARED)

A. The pricing of Interoffice Transport should be deaveraged in such as way as to charge for this use on a per "airline" mile basis (i.e. straight line distance of the transport being provided) and time usage over the economic life of the transmission media. This can be accomplished by determining the total cost of all inter-office transport divided by the total distance of transport laid (on a per mile basis), then further divided by the total economic life of the transmission media on a per second basis. Shared transport should utilize the same pricing structure as dedicated transport (i.e. distance traveled on a per second basis), except that this rate should further be reduced by the percentage of usage with respect to the total capacity of the transport media. Additionally, if there are any quality of service considerations (such as transmission priority), the shared transport costs should be adjusted on a weighted-average basis for the quality of service being provided.

In either case, the facilities termination portion of the inter-office transport should not be deaveraged since the cost (if any) should be the same regardless of where the UNE is provided.

(4) OTHER (INCLUDING COMBINATIONS)

A. Considerations and price reductions should be given for line sharing; particularly current line sharing using the DAML technology previously described.

Q. WHAT ARE xDSL CAPABLE LOOPS?

A. xDSL capable loops are copper loops with no load coils, and in some instances no bridge taps. The length of xDSL capable loops should not be arbitrarily set at any distance as the current state of the art allows service provisioning throughout the 18,000 to 33,000 foot range, depending on equipment vendor. Alternately this Commission could set different classes of xDSL capable loops based upon loop length and modulation capability as done by SouthwesternBell.

Q. SHOULD A COST STUDY FOR xDSL-CAPABLE LOOPS MAKE DISTINCTIONS BASED ON LOOP LENGTH AND/OR THE PARTICULAR DSL TECHNOLOGY TO BE DEPLOYED?

A. Cost studies for xDSL capable loops should consider loop lengths as described previously. There should be no difference in pricing of copper loops and xDSL loops, except that where applicable, line conditioning costs should be amortized over the remaining economic life of the loop and recovered on a recurring rate basis.

Q. WHICH SUBLOOP ELEMENTS, IF ANY, SHOULD BE UNBUNDLED IN THIS PROCEEDING, AND HOW SHOULD PRICES BE SET?

A. All subloops and elements should be unbundled. Additionally, ports on digital loop carrier should also be deaveraged; both on a dedicated use basis and on a shared use basis.

Q. HOW SHOULD ACCESS TO SUCH SUBLOOP ELEMENTS BE PROVIDED, AND HOW SHOULD PRICES BE SET?

A. For dedicated use, access should be given to the entire subloop. The unbundled price for each subloop should be set based upon categories of loop lengths as previous described in reference to deaveraging loop costs. For share use, subloop cost should be further reduced by the proportion of channels available for use on the subloop. For example, if a particular subloop serves ninety-six subscribers, the cost of that sub-loop should be apportioned by ninety-six, with each carrier bearing their proportionate share of customers served by the shared subloop. With respect to ports, if dedicated, the ALEC should pay for the amortized cost of the port on a recurring charge basis. However, if the port is shared, then each carrier should pay the pro-rata

cost of the amortized port based upon the percentage of their customers being served by that port.

Q. WHAT IS THE APPROPRIATE RATE, IF ANY, FOR CUSTOMIZED ROUTING?

A. The only charge for customized routing (above transport costs) should be the average cost of labor to program the customized route.

Q. WHAT ARE THE APPROPRIATE ASSUMPTIONS AND RATES, IF ANY, FOR LINE CONDITIONING, AND IN WHAT SITUATIONS SHOULD THE RATE APPLY?

A. Line conditioning involves removing load coils and bridge taps in order to be able to provide xDSL service. In the strictest sense, load coils and bridge taps would not be placed on newly constructed forward-looking xDSL capable loops and therefore under a forward-looking TELRIC model should not be a recoverable cost. Nevertheless, if this Commission is considering line conditioning charges, then the Commission should consider the following. When provisioning xDSL circuits, the ILEC often has many proposed wire circuit routes which may be taken to reach any particular customers. Databases such as LFACs provide information regarding the

available loops. It has been Supra Telecom's experience to date that ILECs (such as BellSouth) refuse to provide LFACs data so that the ALEC will have no way of knowing whether or not a particular customer can be provided xDSL service without using a loop that needs to be conditioned. ILECs such as BellSouth will always seek to impose a line conditioning charge, whether or not the line needs to be conditioned and without regard to whether or not the customer can be served via an alternate route which does not require line conditioning. Accordingly, regardless of how this cost is recovered, ALECs should be allowed full access to databases such as LFACs which are needed to determine the quality of the loop and whether or not in the first instance, any line conditioning would be needed.

If a line conditioning charge is to be considered, the current state of switch technology is such that load coils are no longer needed to provision basic POTs service; regardless of the loop length. Therefore, once load coils are removed from a circuit path, they will never have to be reinstalled. Thus the removal of load coils should properly be considered to be a network upgrade which should be borne by all potential users of the loop during the remaining useful life of the loop. Therefore, if charged to ALECs, the cost of removing load coils should be recovered as a recurring rate amortized over the remaining life of the loop being conditioned.

With respect to bridge taps, some xDSL equipment can tolerate bridge taps and other equipment cannot. If ALECs are to be charged for removing bridge taps, ALECs should have the right in the first instance to specify whether or not they want any of the bridge taps removed from the loop. Moreover, since bridge taps were install in

the first instance for BellSouth's flexibility in provisioning service, these costs should already be included in the cost of providing new service. Thus even if this Commission were to consider line conditioning charges, ALECs seeking to provide xDSL service should not be require to pay for the cost of removing any such bridge taps. This process is already well established and supported by SouthWestern Bell.

Q. WITHOUT DECIDING THE SITUATIONS IN WHICH SUCH COMBINATIONS ARE REQUIRED, WHAT ARE THE APPROPRIATE RECURRING AND NON-RECURRING RATES FOR THE FOLLOWING UNE COMBINATIONS:

(A) "UNE PLATFORM" CONSISTING OF: LOOP (ALL), LOCAL (INCLUDING PACKET, WHERE REQUIRED) SWITCHING (WITH SIGNALING), AND DEDICATED AND SHARED TRANSPORT (THROUGH AND INCLUDING LOCAL TERMINATION);

A. For an existing service, the cost of a "UNE Platform" should be the combined individual cost of each UNE comprising the platform, and nothing more. For new service, the only additional charge should be the same charge assessed on ALECs for new service for resale accounts, and nothing more.

(B) "EXTENDED LINKS," CONSISTING OF: (1) LOOP, DSO/1 MULTIPLEXING, DS1 INTEROFFICE TRANSPORT; (2) DS1 LOOP, DS1 INTEROFFICE TRANSPORT; AND (3) DS1 LOOP, DS1/3 MULTIPLEXING, DS3 INTEROFFICE TRANSPORT.

A. For an existing connections, the cost of "Extended Links" should be the combined individual cost of each UNE comprising the extended link, and nothing more.

Q. DOES THIS CONCLUDE MY TESTIMONY?

A. Yes, this concludes my testimony.

SUPRA TELECOMMUNICATIONS & INFORMATION SYSTEMS, INC

REBUTTAL TESTIMONY OF DAVID A. NILSON

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NOS. 980649-TP

JUNE 9, 2000

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 41
Rebuttal testimony of David A. Nilson - Dkt 990649

Q. PLEASE STATE YOUR NAME AND ADDRESS

A My name is David A. Nilson. My address is 2620 SW 27th Avenue, Miami, Florida 33133.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPICITY?

A. I am the Chief Technology Officer of Supra Telecommunications and Information Systems, Inc. ("Supra").

Q. PLEASE DESCRIBE YOUR BACKGROUND AND WORK EXPERIENCE.

A. I have been an electrical engineer for the past 26 years, with the last 22 years spent in management level positions in engineering and quality, and regulatory departments. In 1976,after spending two years working in the microwave industry producing next generation switching equipment for end customers such as AT&T

long lines and ITT, I was part of a three-man design team that produced the world's first microwave integrated circuit. This job involved extensive work with various government agencies. At that time, our design was considered the "holy grail" of the microwave industry and was placed in production for AT&T within 30 days of its creation. This job also involved communications equipment design work with various government entities covered by United States Departments of Defense security restrictions. I spent several years in quality control management, monitoring and trouble-shooting manufacturing process deviations, and serving as liaison and auditor to our regulatory dealings with the government. I spent 14 years in the aviation industry designing communications systems, both airborne and land-based, for various airlines and airframe manufacturers worldwide. This included custom designed hardware originally designed for the Pan American Airlines call centers, and the HF long range communications system controllers used on Air Force One and Two and other government aircraft. In this job I was also responsible for validation design testing and FAA system conformance testing. Since 1992 I have been performing network and system design consulting for various industry and government agencies, including the Argonne National Laboratories. I am the principal architect of Supra's ATM backbone network and our central office design.

Q. HAVE YOU EVER PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes, I testified before this Commission in numerous generic dockets and in various disputes between Supra Telecom and BellSouth.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address the issues identified in this proceeding. I have reviewed the testimonies of the ILECs regarding issues 5 (which signaling networks and call-related databases should rates be set); 6 (when is it appropriate to recover non-recurring costs through recurring rates); 9(b) (should the Commission require ILECs to unbundle any other elements or combinations thereof); and 13 (when should recurring and non-recurring rates take effect) and will rebut the asserts made in general by the ILECs. I will also rebut the direct testimony of BellSouth witnesses Alphonso Varner, and Sprint witness James W. Sichter on issues 5, 6 and 9b.

ISSUE 5: FOR WHICH SIGNALING NETWORKS AND CALL RELATED DATABASES SHOULD RATES BE SET.

Q. AS DEFINED BY BELLSOUTH WITNESSES VARNER, ARE THERE ANY OTHER NETWORKS OR DATABASES FOR WHICH RATES SHOULD BE SET?

A. Yes. Unbundled Local switching requires that the ALEC who leases a switching port be given all features and functionality of the port. One such feature is the ability of the port to produce stutter dialtone, or activate a light on the telephone set of a subscriber in response to a signal from a voicemail system or provider to let the telephone subscriber know there is a message waiting. Traditionally this task has been done via the System Message Desk Interface (SMDI) and enhancements to it such as Inter Switch Voice Messaging (ISVM) which allows one switch to pass messaging requests across the network to other switches without the use of a dedicated network.[1]

While this is clearly a function of the switch port, and functionality of it comes with the switch port, in Florida there is no unbundled access to this fundamentally important signaling network / switch port functionality. Therefore an ALEC is not in parity with the ILEC for the Local Switching UNE.

[1] Lucent Document 235-190-104 5ESS 2000 switch ISDN Feature Descriptions, Section 13.4 Message Service System Features, Issue 3 pages 13-67 through 13-126 – Attached as Exhibit DAN-1.

BellSouth does not provide unbundled access to this signaling network, but in their FFC #1 Access Tariff lists SMDI and something called ISMDI. The description of ISMDI is an SS7 / TCAP based network that through a convoluted conversion of conversion between SMDI, ISDN and SS7 / TCAP messages provides a single connection to a signaling connection that is supposed to be able to activate a Message Waiting Indicator (MWI) on a Latawide basis. This is clearly not as cost effective as the ISVM approach. The alternative an ALEC has would be to establish an SMDI connection to each and every BellSouth switch in Florida, a total of 206 individual connections at last count. This is not cost effective compared to ISVM and presents a substantial barrier to entry.

Nowhere is there any mention of direct access to the ISVM signaling, or unbundled access to any signaling required to activate MWI on a leased Local Switching port. These omissions are creating an unusually high barrier to entry for an ALEC like Supra Telecom who is expected by telephone subscribers to provide the same services as the ILEC as seamlessly as the ILEC provides those services.

As shown in Figure 13-11 (of attachment DAN-1), and 13-13 there is no separate signaling network required to transmit messages switch to switch. It is included in the basic switch port functionality, according to meetings Supra Telecom has held with Bell Labs personnel on this issue. Additionally the Bell Labs Engineers confirmed that this ISVM has been adopted as an industry standard for many years

now. This industry standard is also supported by Nortel and Siemens, so that all switches in the BellSouth's network are compliant. Figure 13-14 along with section 13.4.1.2 shows that the required software is part of the base generic software since, at least the 5E8 generic. Since the current software release from Lucent is 5E14, and since Lucent does not support switches with software loads beyond two prior revisions, it is obvious that the required software is already loaded on BellSouth's switches.

ALEC access to the ISVM signaling "network" should be defined as a fundamental component of Local Switching line and trunk ports and ALEC access to this network required of and provided by all Florida ILECs as it is elsewhere in the country. The various message signaling networks are necessary to an ALEC to compete with the ILEC, and failure to have access to such signaling impairs Supra Telecom's ability to acquire new customers who view such a limitation as the mark of an inferior carrier.

Q. ARE THERE ANY OTHER ISSUES WITH WITNESS VARNER'S TESTIMONY?

A. The Local Number Portability (LNP) Query Service.[2] All of the databases listed are query databases. However the specific identification of this as a Query Service in reference to LNP underscores the fact that there is no unbundled OSS access to the system. There is no way for an ALEC to directly provision LNP translations, they must be performed via LSR instead of the obvious, and speedy solution of providing unbundled access to the LSMS system [the standard provisioning hardware / software system used nationwide for entering LNP translations for Nuestar (previously Lockheed Martin)].

LIDB, which is used for authorization of third party billed calls, collect, credit card, etc. is the type system that contains ALEC specific data on a given line. Unbundled OSS access to this system to deal with the minute to minute needs of an ALEC to render or remove credit authorization to a customer speedily and freely and without unnecessary infrastructure overhead.

Therefore it is essential to provide unbundled OSS access to ALECs in a manner that the LIDB records for a given ALEC customer may be directly modified by the ALEC.

[2] BellSouth witness Varner, page 32 line 25.

ISSUE 6: UNDER WHAT CIRCUMSTANCES, IF ANY, IS IT APPROPRIATE TO RECOVER NON-RECURRING COST THROUGH RECURRING RATES?

Q. IN DEFINING "NON-RECURRING COST", SHOULD SUBCATEGORIES BE RECOGNIZED IN DEALING WITH THE ANSWER TO ISSUE 6.

A. Yes. Task related non-recurring costs that repeat, each time an ALEC or ILEC places a service order are a legitimate non-recurring charge. For example, the non-recurring cost to move a cross-connect, or change the carrier code from ILEC to ALEC in the OSS is directly related to the service provisioned.

Within that category, non-recurring costs to convert a working circuit to another carrier are different than placing a circuit in operation at a given address. The current structure of just one non-recurring rate per UNE loop is allowing the ILEC undue enrichment for activities that are not performed. For example, the non-recurring cost to combine NID, Subloop distribution and Subloop feeder components together into a full loop to the customer is a cost that is substantially higher than the non-recurring cost to switch an existing, in-service loop from one carrier to another. Yet with the exception of the limited scope of order PSC-98-

0810-FOF-TP[3], most ALECs in Florida are paying charges for placing a loop in service, for the first time, whenever they order a conversion of a working circuit.

The non-recurring costs of infrastructure, purchase, and construction is a cost to be shared by the carriers using the facility, over the useful life of the facility. Beyond this point the cost model needs to deal with the facility in a different fashion depending upon whether it remains in service or not.

Task related non-recurring costs are specific to a given carriers order for a particular service and should remain non-recurring costs. These non-recurring costs should be specific and the use of Individual Case Basis (ICB) be limited in the extreme, if allowed at all.

Q. DOES THE TESTIMONY OF BELLSOUTH WITNESS VARNER AND SPRINT WITNESS SICHTER REPRESENT ALL THE ISSUES?

A. **No, not at all.** Sprint witness Sichter states that "To the extent that high non-recurring charges are a significant barrier to competitive entry, it may be appropriate to require at least a portion of those non-recurring charges through

[3] Page 55-56

recurring rates. This is in recognition of the FCC's continued efforts to ensure that such non-recurring rates could and might be used by an ILEC to prevent a new competitive carrier from competing with the ILEC in a given area or on a specific product. Unfortunately his final conclusion on this issue ignores this statement in favor of financial protection for the ILEC.

BellSouth witness Varner then goes on to make statement that "In a competitive environment, a providers ability to predict how long an ALEC will remain on the providers network is limited "[4]. Sprint witness Sichter states "... the incumbent LEC is financially exposed if the ALEC discontinues service before the non-recurring costs are fully recovered."[5] Whether it is the high cost burden of current non-recurring charges that causes an ALEC to discontinue leased services, or other reasons, both Sprint and BellSouth indicate that users of facilities will change over the life of the facility.

In spite of their recognition that there must not be barriers to entry in the competitive market, and that the users of facilities will change over time, both ILEC witnesses go on to ask the commission for financial protection from an ALEC who cancels service early!

---

[4] BellSouth witness Varner page 33, line 13.

This limited view of reality is trying to deal with non recurring costs related to the first user, rather than the life of the facility. It ignores the fact that over the useful life of the facility, the ILEC itself may well be a user of the facility. It also ignores the fact that due to universal service, a large portion, if not all of the listed UNEs would have to be constructed anyway. Therefore when an ALEC is not leasing a specific UNE, the ILEC may still be generating revenue from it, either by leasing or from Universal Service funds.

The non-recurring infrastructure charges should be apportioned between the ILEC and all ALECs based upon who has "ownership" of the facility in a given month. These charges should be assessed throughout the amortized life of the equipment. Any attempt to charge non-recurring infrastructure costs to the first user of a facility at a higher rate than subsequent users of the facility violates creates an unnecessarily high barrier to entry.

Q. CAN YOU PROPOSE A TEST TO DETERMINE WHETHER A COST SHOULD BE INCLUDED IN THE RECURRING CHARGE?

---

[5] Sprint witness Sichter page 26, line 3.

A. Well defined, repetitive costs related to service provisiong should remain non-recurring costs. However the cost of placing a loop in service should recognized as substantially different from converting an existing, in-service loop from one carrier to another. The non-recurring rates set by this commission should reflect these very different costs. This is true whether the new carrier is provisiong service via UNE combination[6] or directly from their own facilities based equipment.

This test addresses witness Varner and Sichters concern that an ALEC might cancel service earlier than expected. The ALEC is billed direct costs of provisioning service as a non-recurring rate, and construction costs are assessed to all users over the life of the facility.

Another test for whether a non recurring cost should be separate from the recurring charge are ICB charges. Typically all ICB costs are actually infrastructure construction – they vary depending on physical circumstances and cannot be modeled specifically. ICB charges should be included in recurring rates where they get picked up by the cost model and apportioned to all users.

[6] As provided for by this commission in PSC-98-0810-FOF-TP, conclusion on pages 55-56.

ISSUE 9(b): SUBJECT TO THE STANDARDS OF THE FCC's THIRD REPORT AND ORDER, SHOULD THE COMMISSION REQUIRE ILEC'S TO UNBUNDLE ANY ELEMENTS OR COMBINATIONS OF ELEMENTS. IF SO, WHAT ARE THEY AND HOW SHOULD THEY BE PRICED?

Q. ARE THERE ANY OTHER ELEMENTS NOT LISTED IN ISSUE 9(A) THAT NEED TO BE UNBUNDLED?

A. Yes. One missing element is unbundled DSLAM access. In addition to providing high speed Internet access via ADSL, there are an increasing list of other Telephony related services provided by xDSL circuits, controlled by Central Office located DSLAMS.

First of all, in order to serve any customer in the state with xDSL derived services, one MUST have access to a DSLAM in every central office. Second, With the exception of IDSL (an ISDN BRI equivalent) all other DSL flavors must have direct copper connection between the DSLAM and the customer premises. According to reported figures 60% of BellSouth customers are fed with some amount of fibre optic cable between the central office and the customer. To Service these customers an ALEC must now collocate in every Remote Terminal in the state, an outstanding number of collocations for facilities that quite honestly were never designed to have the capacity to support collocation.

Yet DSL variants are extremely and increasing used by all telephone companies to deploy voice services. Supra Telecom has numerous T1 circuits running into our corporate headquarters. Not one of those T1's is provisioned over a standard 4 wire DS1 circuit. Every one is provisioned over an HDSL (2 wire POTS or DSL loop) or MHDSL(2x2wire POTS or DSL loops) rather than a conditioned, repeater equipped DS1 loop.

The voice over DSL standards have come a long way in the past year, and all over the country, high density voice circuits are increasingly being provisioned over 2 wire circuits instead of DS1 circuits due to lack of facilities, speed of provisioning, or for the reduced cost of this approach.

Packet switched products such as Frame Relay are also delivered over DSL. All of Supra Telecom's Frame Relay circuits connection us to the various ILEC data centers around the country were provisioned by BellSouth over HDSL circuits. So as the commission addresses the unbundling of packet switching, it must deal with the delivery of said service to the end user. Such local loop delivery is increasingly being provided by the ILECs DSLAMS or equivalent equipment.

The ILEC is the one carrier who has deployed DSLAMS ubiquitously throughout its network in Central Offices AND Remote Terminals. This piece of equipment and

its attendant transport, has become an important device in provisioning voice services and as such should be offered in unbundled access. The ILEC must be compelled to provide unbundled access to this switch with pricing based on standards already established by this commission for Unbundled Network Elements.

Q. ARE THERE ANY OTHER?

A. Yes. With the creation of Dark Fibre UNE's the question of Wave Division Multiplexing (WDM) UNEs should be considered. WDM is a technique of using multiple chromatically different lasers to provide 48 (or more) channels of capacity over a circuit that would support one circuit using standard Fibre optic equipment. Not that the practice is any less reliable, but cost studies for dark fibre and lit fibre may have 48 times the revenue bearing capability that has been envisioned in the cost model, and the technological advance that allows this extra capacity should be factored into the cost models. As such it becomes a legitimate consideration as a separate UNE.

Additionally, loops within the distance limitations of xDSL technology should be set aside as a UNE, even if the loop only has voice-grade capabilities. The reason for establishing such a category would be to comply with the TELRIC model requirements that the best and most efficient technology be used when determining

costs. Since it appears that xDSL capable loops will be less expensive than the standard voice grade loop, all loops within the xDSL distance capability (i.e. 18,000 feet to some vendors and ILECs such as BellSouth, greater lengths to others) should be install as the less expensive xDSL loop, rather than the more expensive standard voice-grade loop. Pricing of these xDSL length loops, for which only voice-grade quality can be guaranteed, should be the same as the xDSL loops minus any cost of ensuring that the xDSL loop meets the higher standard.

ISSUE 13: WHEN SHOULD THE RECURRING AND NON-RECURRING RATES AND CHARGES TAKE EFFECT?

Q. WHEN SHOULD THE RECURRING AND NON-RECURRING RATES AND CHARGES TAKE EFFECT?

A. Immediately after the Commission has made a final determination of the rates set by this docket.

Q. DOES THIS CONCLUDE MY TESTIMONY?

A. Yes, this concludes my testimony.

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 42
BellSouth's Response to Supra's Interrogatory 20 -24

BellSouth Telecommunications, Inc.
Florida Public Service Commission
Docket No. 040301-TP
Supra's 2nd Set of Interrogatories
August 26, 2004
Item No. 20-24
ATTACHMENT

Attachment
Response to Items 20-24

Wirecenter	1 (24) Copper Tot Wkg	2 (24) Copper UNE-L	3 (24) Copper UNE-P	4 (24) Copper Other*	5 (20) DLC Integrated Tot Wkg	6 (20)&(22) DLC Integrated UNE-L	7 (20) DLC Integrated UNE-P	8 (20) DLC Integrated Other*	9 (23) DLC Universal Tot Wkg	10 (23) DLC Universal UNE-L	11 (23) DLC Universal UNE-P	12 (23) DLC Universal Other*	13 (21) NGDLC Integrated Tot Wkg	14 (21)&(22) NGDLC Integrated UNE-L	15 (21) NGDLC Integrated UNE-P	16 (21) NGDLC Integrated Other*	17 (21) NGDLC Universal Tot Wkg	18 (21) NGDLC Universal UNE-L	19 (21) NGDLC Universal UNE-P	20 (21) NGDLC Universal Other*	21 (22) DLC/NGDLC SideDoor UNE-L Tot
archflma	1771	0	52	1719	893	0	19	874	316	1	3	312	211	0	1	210	2	0	0	2	0
bcrtflbt	12012	1077	1050	9885	12591	2	1212	11377	6016	451	567	4998	6829	0	520	6309	627	127	36	464	2
bcrtflma	36102	2351	3789	29962	27624	0	2838	24786	10432	1680	1070	7682	10071	0	787	9284	1221	467	50	704	0
bcrtflsa	27752	861	3644	23247	33187	24	4394	28769	1992	165	187	1640	9540	0	981	8559	798	138	74	586	24
bgpiflma	2648	0	188	2460	1928	0	50	1878	253	0	6	247	895	0	32	863	244	0	6	238	0
bkvlfljf	8987	0	778	8209	10638	0	703	9935	4944	0	392	4552	924	0	121	803	46	0	9	37	0
bldwflma	1393	0	92	1301	630	0	34	596	660	0	23	637	0	0	0	0	0	0	0	0	0
bglflma	8088	5	1992	6091	2357	0	620	1737	319	0	60	259	52	0	7	45	353	0	29	324	0
bnnlflma	2812	0	235	2577	1262	0	32	1230	5003	0	127	4876	1447	0	59	1388	1302	0	68	1234	0
brsnflma	1650	0	75	1575	1779	0	38	1741	775	0	28	747	0	0	0	0	0	0	0	0	0
bybhflma	25592	910	3166	21516	39355	0	3518	35837	6276	590	601	5085	30304	0	2766	27538	12457	339	1055	11063	0
ccbhflaf	387	0	15	372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ccbhflma	18339	342	1392	16605	1115	0	185	930	1024	136	124	764	2535	0	337	2198	869	43	59	767	0
cdkyflma	981	0	29	952	234	0	4	230	308	0	3	305	0	0	0	0	0	0	0	0	0
cfldflma	2583	2	250	2331	2435	0	86	2349	647	0	38	609	0	0	0	0	0	0	0	0	0
chplflja	4271	3	203	4065	1211	0	19	1192	408	0	10	398	566	0	8	558	440	0	3	437	0
cntmflle	3858	4	339	3515	2603	0	129	2474	2054	0	102	1952	835	0	41	794	184	0	11	173	0
cocoflma	20060	642	2093	17325	30891	12	2115	28764	4632	204	334	4094	10830	0	498	10332	722	99	30	593	12
cocoflme	11300	371	961	9968	11654	0	916	10738	3317	164	242	2911	1296	0	50	1246	84	1	9	74	0
cscyflba	2204	3	141	2060	2070	0	55	2015	531	0	16	515	268	0	4	264	0	0	0	0	0
dbryfldl	7140	0	958	6182	5549	0	814	4735	418	0	51	367	2243	0	310	1933	114	0	15	99	0
dbryflma	3880	0	420	3460	2449	0	276	2173	98	0	8	90	2093	0	243	1850	79	0	11	68	0
deldflma	18574	292	2448	15834	7116	21	792	6303	1135	36	167	932	1171	0	124	1047	226	0	22	204	21
dlbhflkp	27643	542	2886	24215	24159	0	1674	22485	2000	156	265	1579	21222	0	1278	19944	5967	256	427	5284	0
dlbhflma	29085	1261	3923	23901	9225	418	1112	7695	30214	223	707	29284	0	0	0	0	0	0	0	0	418
dlspflma	1991	0	150	1841	610	0	38	572	0	0	0	0	0	0	0	0	0	0	0	0	0
dnlnflwm	3271	0	247	3024	5366	0	54	5312	5103	0	86	5017	440	0	1	439	24	0	0	24	0
drbhflma	33426	1223	3849	28354	17197	85	2069	15043	3119	448	348	2323	10825	0	1203	9622	1556	153	160	1243	85
dybhflfn	3003	17	347	2639	583	0	27	556	20	0	1	19	349	0	48	301	0	0	0	0	0
dybhflma	26302	721	4063	21518	17710	0	1949	15761	3936	205	416	3315	2733	0	344	2389	244	40	31	173	0
dybhflob	19900	382	2450	17068	12288	0	1114	11174	1665	42	194	1429	6026	0	370	5656	540	22	55	463	0
dybhflos	6363	5	568	5790	611	0	45	566	134	0	14	120	896	0	71	825	4	0	0	4	0
dybhflpo	24736	295	2667	21774	18830	1	1634	17195	6111	106	629	5376	7015	0	484	6531	1307	75	120	1112	1
eglflbg	17124	249	1847	15028	32046	134	2576	29336	574	29	59	486	11956	2	774	11180	371	76	11	284	136
eglflih	16714	12	1706	14996	2470	0	201	2269	226	0	26	200	1452	0	108	1344	58	0	3	55	0
eornflma	1295	0	32	1263	2295	0	79	2216	1032	0	35	997	1204	0	15	1189	252	0	10	242	0
flbhflma	3225	0	420	2805	364	0	28	336	1149	0	86	1063	423	0	55	368	637	0	60	577	0
flrnscma	27292	14	3769	23509	28338	0	2582	25756	102	0	19	83	17775	0	1249	16526	210	1	20	189	0
frbhflfp	9523	2	1109	8412	7879	0	608	7271	1290	0	129	1161	2563	0	219	2344	373	0	21	352	0
ftgrflma	308	0	8	300	437	0	10	427	0	0	0	0	0	0	0	0	0	0	0	0	0
ftldflap	700	0	72	628	1950	0	135	1815	51	2	0	49	0	0	0	0	0	0	0	0	0
ftldflcr	42250	2044	5346	34860	4599	1	318	4280	1124	47	105	972	3668	0	143	3525	191	49	7	135	1
ftldflcy	35426	1855	4262	29309	4600	6	543	4051	1381	220	83	1078	453	0	1	452	664	28	25	611	6
ftldflja	28811	1267	4315	23229	44956	124	4407	40425	3159	422	355	2382	29214	10	2392	26812	646	209	24	413	134

Note: "Other" in each category represents Reail/Resale, which cannot be disaggregated. *Number in parentheses indicates Data Request Item number*

Attachment
Response to Items 20-24

Wirecenter	(24) Copper Tot Wkg	(24) Copper UNE-L	(24) Copper UNE-P	(24) Copper Other*	(20) DLC Integrated Tot Wkg	(20)&(22) DLC Integrated UNE-L	(20) DLC Integrated UNE-P	(20) DLC Integrated Other*	(23) DLC Universal Tot Wkg	(23) DLC Universal UNE-L	(23) DLC Universal UNE-P	(23) DLC Universal Other*	(21) NGDLC Integrated Tot Wkg	(21)&(22) NGDLC Integrated UNE-L	(21) NGDLC Integrated UNE-P	(21) NGDLC Integrated Other*	(21) NGDLC Universal Tot Wkg	(21) NGDLC Universal UNE-L	(21) NGDLC Universal UNE-P	(21) NGDLC Universal Other*	(22) DLC/NGDLC SideDoor UNE-L Tot
ftldflmr	59874	4494	6895	48485	14206	39	1259	12908	161	19	6	136	3487	30	199	3258	210	89	25	96	69
ftldfloa	48475	1974	10766	35735	8083	10	1303	6770	2140	358	262	1520	1183	0	173	1010	1122	26	38	1058	10
ftldflpl	37494	2547	6238	28709	14410	51	2131	12228	7195	1094	788	5313	1566	1	274	1291	233	90	32	111	52
ftldflsg	0	0	0	0	5250	0	806	4444	824	0	67	757	118	0	0	118	61	0	0	61	0
ftldflsu	34768	665	6096	28007	10548	554	1925	8069	3195	62	444	2689	0	0	0	0	0	0	0	0	554
ftldflwn	4425	63	749	3613	29508	73	3734	25701	1795	118	236	1441	22572	51	2723	19798	554	225	31	298	124
ftprflma	35633	474	3914	31245	25456	0	1108	24348	6572	154	367	6051	7006	0	175	6831	445	32	23	390	0
gcspflcn	5017	6	299	4712	2450	0	120	2330	2539	0	118	2421	124	0	6	118	380	0	11	369	0
gcvlflma	2709	0	89	2620	497	0	16	481	440	0	17	423	93	0	1	92	221	0	1	220	0
genvflma	1392	0	46	1346	937	0	42	895	652	0	19	633	0	0	0	0	64	0	0	64	0
glbrflmc	5133	18	538	4577	8452	0	832	7620	4340	13	423	3904	2362	0	160	2202	95	2	8	85	0
gsvlflma	45511	156	3825	41530	48553	41	3468	45044	9904	21	721	9162	18069	0	829	17240	791	8	9	774	41
gsvlflnw	7667	20	930	6717	6780	0	526	6254	1844	2	174	1668	3461	0	248	3213	87	1	3	83	0
havnflma	2386	0	78	2308	1563	0	27	1536	829	0	28	801	382	0	1	381	302	0	2	300	0
hbsdflma	8990	11	944	8035	1647	0	136	1511	615	1	37	577	742	0	48	694	77	0	0	77	0
hlnvflma	1900	0	130	1770	8161	0	381	7780	1144	0	60	1084	8290	0	335	7955	384	0	24	360	0
hlwdflha	28033	519	4673	22841	9	0	1	8	3078	118	459	2501	2700	8	319	2373	0	0	0	0	8
hlwdflma	40866	1731	7508	31627	8407	32	1173	7202	1348	318	124	906	11941	0	194	11747	87	36	0	51	32
hlwdflpe	21012	1277	4766	14969	98759	916	15133	82710	875	192	94	589	69489	27	10114	59348	2530	1190	161	1179	943
hlwdflwh	65364	3811	14062	47491	17952	102	2259	15591	2856	182	256	2418	8451	12	1209	7230	371	186	16	169	114
hmstflea	1243	0	84	1159	482	0	8	474	66	0	0	66	934	0	61	873	71	0	10	61	0
hmstflhm	22976	74	3789	19113	12987	0	1360	11627	2218	1	230	1987	5244	0	496	4748	528	2	55	471	0
hmstflna	8685	0	1038	7647	1702	0	130	1572	244	0	25	219	1286	0	143	1143	1809	0	146	1663	0
htisflma	13407	1	991	12415	3923	0	333	3590	1382	3	151	1228	769	0	59	710	77	0	3	74	0
hwthflma	1366	0	52	1314	1440	0	43	1397	908	0	16	892	180	0	2	178	0	0	0	0	0
islmflma	2282	1	203	2078	1784	0	119	1665	469	0	39	430	664	0	32	632	22	0	0	22	0
jayyflma	1309	0	33	1276	1780	0	48	1732	130	0	7	123	0	0	0	0	0	0	0	0	0
jcbhflab	1443	2	117	1324	6772	0	592	6180	999	0	84	915	2588	0	243	2345	60	4	1	55	0
jcbhflma	18095	515	1557	16023	11770	264	1169	10337	2678	19	133	2526	0	0	0	0	0	0	0	0	264
jcbhflsp	3738	10	403	3325	5420	0	398	5022	403	0	25	378	3971	0	322	3649	240	0	27	213	0
jcvlflar	20087	835	2225	17027	4190	22	438	3730	819	44	38	737	2422	9	227	2186	150	59	2	89	31
jcvlflbw	11488	563	1003	9922	19929	53	1194	18682	2751	299	147	2305	17626	21	1050	16555	1195	228	57	910	74
jcvlflcl	36892	1452	2864	32576	4460	45	433	3982	4133	353	242	3538	1478	7	212	1259	448	85	36	327	52
jcvlflfc	11901	276	1306	10319	3050	31	267	2752	338	20	26	292	1567	0	176	1391	253	2	48	203	31
jcvlflia	624	4	95	525	1474	0	160	1314	14	0	6	8	0	0	0	0	0	0	0	0	0
jcvlfljt	1795	121	86	1588	2796	7	178	2611	427	16	18	393	1296	0	50	1246	181	23	0	158	7
jcvlflif	23172	319	1978	20875	8250	77	537	7636	1317	11	122	1184	0	0	0	0	0	0	0	0	77
jcvlflno	16154	435	2026	13693	7888	61	746	7081	1615	187	112	1316	4561	0	454	4107	3405	97	217	3091	61
jcvlflow	7727	168	560	6999	8451	0	501	7950	3335	74	217	3044	2203	0	80	2123	324	8	25	291	0
jcvlflrv	25739	915	2602	22222	1767	53	95	1619	5504	75	147	5282	0	0	0	0	0	0	0	0	53
jcvlflsj	25174	1397	2253	21524	5045	9	420	4616	7079	546	561	5972	798	0	70	728	118	45	11	62	9
jcvlflsm	15393	1011	1319	13063	2866	8	285	2573	1606	216	78	1312	393	0	37	356	160	25	4	131	8
jcvlflwc	17895	386	2425	15084	18886	12	1871	17003	2102	66	205	1831	7774	0	574	7200	707	59	59	589	12
jptrflma	23505	995	2060	20450	19081	0	1498	17583	3324	447	229	2648	1064	0	33	1031	15185	194	426	14565	0
kyhgflma	3395	0	197	3198	2555	0	119	2436	924	0	39	885	0	0	0	0	0	0	0	0	0

Note: "Other" in each category represents Reail/Resale, which cannot be disaggregated. Number in parentheses indicates Data Request Item number.

Attachment
Response to Items 20-24

Wirecenter	(24) Copper Tot Wkg	(24) Copper UNE-L	(24) Copper UNE-P	(24) Copper Other*	(20) DLC Integrated Tot Wkg	(20)&(22) DLC Integrated UNE-L	(20) DLC Integrated UNE-P	(20) DLC Integrated Other*	(23) DLC Universal Tot Wkg	(23) DLC Universal UNE-L	(23) DLC Universal UNE-P	(23) DLC Universal Other*	(21) NGDLC Integrated Tot Wkg	(21)&(22) NGDLC Integrated UNE-L	(21) NGDLC Integrated UNE-P	(21) NGDLC Integrated Other*	(21) NGDLC Universal Tot Wkg	(21) NGDLC Universal UNE-L	(21) NGDLC Universal UNE-P	(21) NGDLC Universal Other*	(22) DLC/NGDLC SideDoor UNE-L Tot
kylrflls	4788	0	582	4206	2719	0	294	2425	925	0	112	813	214	0	28	186	5	0	0	5	0
kylrflma	3593	0	479	3114	5054	0	424	4630	813	0	54	759	43	0	1	42	0	0	0	0	0
kywsflma	16800	0	1889	14911	8365	0	639	7726	1370	0	72	1298	3811	0	298	3513	692	0	27	665	0
lkcyflma	10466	17	764	9685	13622	0	529	13093	5626	0	250	5376	394	0	27	367	104	0	3	101	0
lkmrflhe	440	0	0	440	12131	0	805	11326	1156	108	126	922	9888	0	542	9346	683	204	0	479	0
lyhnfloh	6214	4	341	5869	2286	0	87	2199	199	0	9	190	2456	0	67	2389	502	0	13	489	0
mcnpflma	881	1	29	851	428	0	8	420	140	0	1	139	0	0	0	0	0	0	0	0	0
mdbgflpm	3022	7	185	2830	5633	0	168	5465	6079	0	200	5879	1466	0	17	1449	2504	0	64	2440	0
miamflae	58897	2562	6645	49690	4594	3	596	3995	7	6	0	1	4978	0	430	4548	552	167	20	365	3
miamflal	29461	429	5030	24002	1867	64	174	1629	0	0	0	0	3339	12	259	3068	0	0	0	0	76
miamflap	5546	51	555	4940	1918	0	82	1836	288	1	3	284	1954	0	77	1877	563	0	0	563	0
miamflba	30705	507	3581	26617	2005	34	226	1745	3736	16	142	3578	0	0	0	0	0	0	0	0	34
miamflbc	15433	656	2138	12639	221	0	39	182	434	0	24	410	69	18	4	47	0	0	0	0	18
miamflbr	36687	1086	4350	31251	5168	75	566	4527	852	13	40	799	11063	0	961	10102	694	144	84	466	75
	48965	1059	6967	40939	61152	7	5175	55970	3986	261	417	3308	43798	0	2865	40933	570	136	42	392	7
	3848	5	335	3508	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	31580	621	4571	26388	728	0	80	648	25	12	0	13	369	0	48	321	35	7	6	22	0
	34718	1862	3090	29766	2688	0	319	2369	2101	157	153	1791	4732	0	359	4373	655	107	22	526	0
	51299	2492	8449	40358	66173	150	8240	57783	10140	1111	1494	7535	45690	0	4808	40882	1357	524	68	765	150
	34485	495	4888	29102	3652	0	414	3238	893	54	119	720	1946	0	265	1681	270	21	10	239	0
	9090	20	838	8232	288	2	19	267	2064	0	224	1840	31	3	1	27	0	0	0	0	5
	18727	27	2496	16204	1187	0	285	902	630	0	50	580	0	0	0	0	0	0	0	0	0
	27158	673	6428	20057	622	0	108	514	68	0	11	57	815	0	233	582	36	2	6	28	0
miamflns	27748	448	5407	21893	1729	0	316	1413	1919	0	511	1408	190	3	18	169	0	0	0	0	3
miamflol	24484	560	6101	17823	2728	0	646	2082	2831	70	436	2325	719	0	122	597	4347	44	460	3843	0
miamflpb	35049	1133	5298	28618	1465	0	99	1366	5080	350	612	4118	1436	0	99	1337	6562	50	251	6261	0
miamflpl	26483	3141	2922	20420	46037	418	3827	41792	1795	235	162	1398	26273	6	1804	24463	1836	935	52	849	424
miamflrr	39382	2003	3326	34053	7975	7	430	7538	2351	182	96	2073	3325	0	213	3112	435	121	23	291	
miamflsh	34230	656	7990	25584	980	4	266	710	3153	6	149	2998	0	0	0	0	0	0	0	0	4
miamflso	41916	1080	5476	35360	6769	0	823	5946	2247	140	161	1946	4669	0	373	4296	8492	256	240	7996	0
miamflwd	25237	337	4193	20707	33533	17	4228	29288	1704	84	254	1366	20342	1	2024	18317	229	46	18	165	18
miamflwm	33877	921	4248	28708	6318	0	830	5488	4982	191	334	4457	2628	0	162	2466	13761	154	160	13447	0
miccflbb	5072	0	345	4727	1482	0	115	1367	138	0	14	124	1	0	0	1	0	0	0	0	0
milbrflma	32231	1233	3307	27691	53862	41	4923	48898	9353	494	827	8032	15754	0	1075	14679	755	139	41	575	41
mitnflra	8407	10	358	8039	7775	0	190	7585	5344	3	146	5195	8790	0	180	8610	435	0	2	433	0
mndrflav	1955	28	149	1778	3592	5	378	3209	506	49	31	426	2252	1	152	2099	317	32	3	282	6
mndrflio	13287	293	1053	11941	18083	46	1260	16777	2870	400	164	2306	4701	5	245	4451	963	230	20	713	51
mndrfliw	2806	3	175	2628	3024	0	133	2891	340	0	11	329	5754	0	284	5470	1897	0	20	1877	0
mnsnflma	214	0	2	212	348	0	4	344	141	0	3	138	0	0	0	0	0	0	0	0	0
mrthflve	6094	0	686	5408	3987	0	384	3603	1035	0	85	950	1335	0	75	1260	131	0	3	128	0
mxvlflma	788	0	51	737	629	0	32	597	197	0	11	186	0	0	0	0	0	0	0	0	0
ndadflac	33514	879	8132	24503	7852	11	804	7037	2072	114	249	1709	4584	0	383	4201	3780	121	324	3335	11
ndadflbr	22286	405	5168	16713	12376	0	1975	10401	5023	60	780	4183	18817	0	3720	15097	1414	52	295	1067	0
ndadflgg	28857	2947	5450	20460	2979	9	560	2410	478	96	82	300	1716	0	309	1407	127	82	6	39	9
ndadflol	29683	755	4690	24238	4754	0	509	4245	7384	160	809	6415	5453	0	488	4965	5531	62	231	5238	0

Note: "Other" in each category represents Reail/Resale, which cannot be disaggregated. Number in parentheses indicates Data Request Item number.

Attachment
Response to Items 20-24

Wirecenter	(24) Copper Tot Wkg	(24) Copper UNE-L	(24) Copper UNE-P	(24) Copper Other*	(20) DLC Integrated Tot Wkg	(20)&(22) DLC Integrated UNE-L	(20) DLC Integrated UNE-P	(20) DLC Integrated Other*	(23) DLC Universal Tot Wkg	(23) DLC Universal UNE-L	(23) DLC Universal UNE-P	(23) DLC Universal Other*	(21) NGDLC Integrated Tot Wkg	(21)&(22) NGDLC Integrated UNE-L	(21) NGDLC Integrated UNE-P	(21) NGDLC Integrated Other*	(21) NGDLC Universal Tot Wkg	(21) NGDLC Universal UNE-L	(21) NGDLC Universal UNE-P	(21) NGDLC Universal Other*	(22) DLC/NGDLC SideDoor UNE-L Tot
nklrflma	2811	0	111	2700	17	0	2	15	759	0	32	727	0	0	0	0	0	0	0	0	0
nsbhflma	15822	43	3404	12375	8794	0	1712	7082	8738	1	1809	6928	1770	0	192	1578	1271	2	189	1080	0
nwbyflma	1346	0	92	1254	1779	0	30	1749	1615	0	21	1594	0	0	0	0	0	0	0	0	0
okhlflma	1483	0	118	1365	921	0	47	874	0	0	0	0	0	0	0	0	0	0	0	0	0
oltwflln	1262	0	44	1218	2505	0	36	2469	1036	0	16	1020	0	0	0	0	0	0	0	0	0
orldflap	23820	763	3121	19936	60098	190	5777	54131	12112	829	1237	10046	34124	2	2636	31486	1729	322	133	1274	192
orldflcl	23879	1194	2240	20445	4288	16	371	3901	1953	138	144	1671	1758	19	125	1614	90	29	4	57	35
orldflma	39507	3132	3310	33065	17637	1044	1812	14781	4350	203	396	3751	0	0	0	0	0	0	0	0	1044
orldflpc	21598	1498	2295	17805	47144	317	5423	41404	11318	1453	1051	8814	20892	18	2195	18679	1445	345	100	1000	335
orldflph	29253	1562	4600	23091	57940	421	7344	50175	5594	851	482	4261	15904	13	1757	14134	1348	271	77	1000	434
orldflsa	12471	977	1355	10139	13092	83	1466	11543	2549	325	236	1988	5488	56	825	4607	1284	285	75	924	139
orpkflma	11413	372	1247	9794	15213	0	902	14311	1922	164	194	1564	9768	0	488	9280	3658	135	245	3278	0
orpkflrw	9359	40	1209	8110	1637	0	158	1479	1043	4	106	933	7465	1	335	7129	0	0	0	0	1
ovidflca	5252	252	552	4448	22402	3	1977	20422	2850	172	257	2421	8877	0	654	8223	630	119	34	477	3
paceflpv	5477	13	455	5009	4264	0	210	4054	2225	1	107	2117	1030	0	71	959	59	0	0	59	0
pahkflma	3235	3	841	2391	338	0	98	240	45	0	3	42	0	0	0	0	0	0	0	0	0
pcbhflnt	5185	9	339	4837	14628	0	1004	13624	2937	6	201	2730	3251	0	132	3119	525	2	25	498	0
plcsflma	7236	0	640	6596	12502	0	807	11695	934	0	61	873	4698	0	244	4454	792	0	47	745	0
pltkflma	9454	6	917	8531	9716	0	468	9248	2506	0	130	2376	952	0	51	901	86	0	1	85	0
pmbhflcs	30662	1709	5456	23497	38642	108	5204	33330	2105	152	239	1714	14850	0	1779	13071	1172	231	129	812	108
pmbhflfe	46989	1641	6829	38519	17561	9	1867	15685	4317	496	456	3365	7719	0	433	7286	943	113	130	700	9
pmbhflma	45433	1724	7155	36554	27797	100	4070	23627	6471	1024	750	4697	4093	0	395	3698	162	43	3	116	100
pmbhflta	24338	775	5430	18133	12647	11	2139	10497	938	60	121	757	3654	0	490	3164	288	32	17	239	11
pmpkflma	1834	0	56	1778	1356	0	29	1327	307	0	10	297	0	0	0	0	0	0	0	0	0
pncyflca	4777	1	319	4457	839	0	42	797	719	0	44	675	239	0	12	227	44	0	2	42	0
pncyflma	20732	44	1997	18691	11782	0	1169	10613	4748	23	475	4250	2918	0	292	2626	461	16	23	422	0
pnscflbl	27042	995	3033	23014	11395	0	1013	10382	6602	95	834	5673	9920	0	741	9179	765	67	47	651	0
pnscflfp	17904	272	2045	15587	26475	0	2647	23828	8584	256	1020	7308	8389	0	704	7685	760	130	48	582	0
pnscflhc	4422	4	457	3961	3765	0	329	3436	1567	0	149	1418	963	0	79	884	372	1	23	348	0
pnscflpb	3358	1	321	3036	1079	0	106	973	464	0	34	430	2874	0	260	2614	351	0	35	316	0
pnscflwa	20040	154	2632	17254	15606	0	1415	14191	2585	18	271	2296	8099	0	505	7594	108	14	4	90	0
pnvdflma	7205	21	520	6664	11191	3	793	10395	1636	12	111	1513	3317	0	216	3101	157	4	1	152	3
prmflma	48010	3157	5880	38973	64021	2	4321	59698	9949	1385	1096	7468	56515	0	3309	53206	3687	1844	93	1750	2
prsnflfd	1616	0	97	1519	1184	0	42	1142	407	0	26	381	0	0	0	0	0	0	0	0	0
ptslflma	14247	7	1284	12956	34919	0	2301	32618	9142	17	869	8256	15398	0	643	14755	543	2	47	494	0
ptslflso	12069	41	1393	10635	4271	0	543	3728	387	1	40	346	1607	0	186	1421	139	1	12	126	0
sbstflfe	1838	0	113	1725	41	0	1	40	182	0	2	180	0	0	0	0	0	0	0	0	0
sbstflma	7804	18	488	7298	7833	0	346	7487	1889	1	113	1775	3105	0	197	2908	134	0	3	131	0
sgkyflma	504	0	13	491	2893	0	97	2796	544	0	17	527	689	0	17	672	36	0	0	36	0
snfrflma	12889	508	2087	10294	34569	32	4413	30124	8598	553	1196	6849	17398	3	1822	15573	948	208	49	691	35
stagflbs	6886	5	527	6354	3131	0	219	2912	672	0	39	633	3019	0	257	2762	389	0	25	364	0
stagflma	10227	409	1003	8815	19531	128	1388	18015	1202	169	134	899	8405	2	458	7945	539	155	21	363	130
stagflsh	5132	6	510	4616	3894	2	441	3451	604	0	69	535	1191	0	98	1093	88	2	7	79	2
stagflwg	3688	0	134	3554	4034	0	157	3877	84	0	0	84	8	0	0	8	0	0	0	0	0
strtflma	27684	815	3121	23748	36178	2	2887	33289	9589	346	914	8329	15120	2	811	14307	1059	158	38	863	4

Note: "Other" in each category represents Reail/Resale, which cannot be disaggregated. Number in parentheses indicates Data Request Item number

Attachment
Response to Items 20-24

Wirecenter	(24) Copper Tot Wkg	(24) Copper UNE-L	(24) Copper UNE-P	(24) Copper Other*	(20) DLC Integrated Tot Wkg	(20)&(22) DLC Integrated UNE-L	(20) DLC Integrated UNE-P	(20) DLC Integrated Other*	(23) DLC Universal Tot Wkg	(23) DLC Universal UNE-L	(23) DLC Universal UNE-P	(23) DLC Universal Other*	(21) NGDLC Integrated Tot Wkg	(21)&(22) NGDLC Integrated UNE-L	(21) NGDLC Integrated UNE-P	(21) NGDLC Integrated Other*	(21) NGDLC Universal Tot Wkg	(21) NGDLC Universal UNE-L	(21) NGDLC Universal UNE-P	(21) NGDLC Universal Other*	(22) DLC/NGDLC SideDoor UNE-L Tot
syhsflcc	687	0	7	680	907	0	16	891	376	0	9	367	0	0	0	0	0	0	0	0	0
trenflma	2179	0	155	2024	2333	0	66	2267	917	0	32	885	0	0	0	0	0	0	0	0	0
ttvflma	18078	435	1584	16059	13472	0	1040	12432	4400	231	297	3872	1967	0	137	1830	193	20	14	159	0
vernflma	958	0	51	907	1145	0	25	1120	240	0	4	236	0	0	0	0	0	0	0	0	0
vrbhflbe	8541	6	869	7666	4094	0	220	3874	1713	0	119	1594	1518	0	107	1411	598	0	19	579	0
vrbhflma	25775	580	2883	22312	24371	1	2026	22344	8192	200	763	7229	9271	0	534	8737	742	50	43	649	1
welkflma	1664	0	56	1608	970	0	17	953	131	0	1	130	93	0	1	92	18	0	0	18	0
wpbhflan	33101	1900	3015	28186	6203	8	468	5727	1994	100	103	1791	3232	0	364	2868	3244	261	100	2883	8
wpbhflga	50863	2460	6655	41748	47898	43	5198	42657	5600	856	562	4182	29306	0	2683	26623	2141	681	142	1318	43
wpbhflgr	24867	1571	1989	21307	37120	14	2094	35012	4596	362	269	3965	26617	0	1281	25336	2038	568	70	1400	14
wpbhflhh	38733	2038	5010	31685	31956	166	3433	28357	3731	771	245	2715	13197	0	1046	12151	1139	305	30	804	166
wpbhflle	40853	1640	5421	33792	3670	0	326	3344	1017	171	114	732	261	0	11	250	2436	6	98	2332	0
wpbhflrb	28663	1084	3790	23789	14929	953	1775	12201	14131	123	536	13472	0	0	0	0	0	0	0	0	953
wpbhflrp	11988	326	1272	10390	56212	79	4614	51519	3276	341	267	2668	31739	0	2270	29469	2057	336	92	1629	79
wwspflhi	2027	0	199	1828	9316	0	646	8670	3755	0	386	3369	269	0	41	228	0	0	0	0	0
wwspflsh	11004	2	1509	9493	19571	0	2657	16914	3083	0	505	2578	413	0	50	363	40	0	4	36	0
ynfnflma	717	0	14	703	395	0	6	389	2097	0	51	2046	112	0	0	112	510	0	11	499	0
yntwflma	1465	0	82	1383	947	0	9	938	537	0	15	522	0	0	0	0	0	0	0	0	0
yuleflma	2170	0	120	2050	2156	0	93	2063	1073	0	31	1042	0	0	0	0	0	0	0	0	0

Note: "Other" in each category represents Reail/Resale, which cannot be disaggregated. Number in parentheses indicates Data Request Item number

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
		(24)	(24)	(24)	(24)	(20)	(20)&(22)	(20)	(20)	(23)	(23)	(23)	(23)	(21)	(21)&(22)	(21)	(21)	(21)	(21)	(21)	(21)	(22)	
	WireCenter	Copper Tot Wkg	Copper UNE-L	Copper UNE-P	Copper Other*	DLC Integrated TotWkg	DLC Integrated UNE-L	DLC Integrated UNE-P	DLC Integrated Other*	DLC Universal Tot Wkg	DLC Universal UNE-L	DLC Universal UNE-P	DLC Universal Other	NGDLC Integrated TotWkg	NGDLC Integrated UNE-L	NGDLC Integrated UNE-P	NGDLC Integrated Other*	NGDLC Universal TotWkg	NGDLC Universal UNE-L	NGDLC Universal UNE-P	NGDLC Universal Other*	DLC/NGDLC SideDoor UNE-L Tot	
5	archflma	1771	0	52	1719	893	0	19	874	316	1	3	312	211	0	1	210	2	0	0	2	0	
7	bcrtflbt	12012	1077	1050	9885	12591	2	1212	11377	6016	451	567	4998	6829	0	520	6309	627	127	36	464	2	
8	bcrtflma	36102	2351	3789	29962	27624	0	2838	24786	10432	1680	1070	7682	10071	0	787	9284	1221	467	50	704	0	
9	bcrtflsa	27752	861	3644	23247	33187	24	4394	28769	1992	165	187	1640	9540	0	981	8559	798	138	74	586	24	
0	bgpiflma	2648	0	188	2460	1928	0	50	1878	253	0	6	247	895	0	32	863	244	0	6	238	0	
1	bkvlfljf	8987	0	778	8209	10638	0	703	9935	4944	0	392	4552	924	0	121	803	46	0	9	37	0	
2	bldwflma	1393	0	92	1301	630	0	34	596	660	0	23	637	0	0	0	0	0	0	0	0	0	
3	blgtflma	8088	5	1992	6091	2357	0	620	1737	319	0	60	259	52	0	7	45	353	0	29	324	0	
4	bnnlflma	2812	0	235	2577	1262	0	32	1230	5003	0	127	4876	1447	0	59	1388	1302	0	68	1234	0	
5	brsnflma	1650	0	75	1575	1779	0	38	1741	775	0	28	747	0	0	0	0	0	0	0	0	0	
6	bybhflma	25592	910	3166	21516	39355	0	3518	35837	6276	590	601	5085	30304	0	2766	27538	12457	339	1055	11063	0	
7	ccbhflaf	387	0	15	372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	cbhflma	18339	342	1392	16605	1115	0	185	930	1024	136	124	764	2535	0	337	2198	869	43	59	767	0	
9	cdkyflma	981	0	29	952	234	0	4	230	308	0	3	305	0	0	0	0	0	0	0	0	0	
0	cfldflma	2583	2	250	2331	2435	0	86	2349	647	0	38	609	0	0	0	0	0	0	0	0	0	
1	chplflja	4271	3	203	4065	1211	0	19	1192	408	0	10	398	566	0	8	558	440	0	3	437	0	
2	cntmflle	3858	4	339	3515	2603	0	129	2474	2054	0	102	1952	835	0	41	794	184	0	11	173	0	
3	cocoflma	20060	642	2093	17325	30891	12	2115	28764	4632	204	334	4094	10830	0	498	10332	722	99	30	593	12	
4	cocoflme	11300	371	961	9968	11654	0	916	10738	3317	164	242	2911	1296	0	50	1246	84	1	9	74	0	
5	cscyflba	2204	3	141	2060	2070	0	55	2015	531	0	16	515	268	0	4	264	0	0	0	0	0	
6	dbryfldl	7140	0	958	6182	5549	0	814	4735	418	0	51	367	2243	0	310	1933	114	0	15	99	0	
7	dbryflma	3880	0	420	3460	2449	0	276	2173	98	0	8	90	2093	0	243	1850	79	0	11	68	0	
8	deldflma	18574	292	2448	15834	7116	21	792	6303	1135	36	167	932	1171	0	124	1047	226	0	22	204	21	
9	dlbhflkp	27643	542	2886	24215	24159	0	1674	22485	2000	156	265	1579	21222	0	1278	19944	5967	256	427	5284	0	
0	dlbhflma	29085	1261	3923	23901	9225	418	1112	7695	30214	223	707	29284	0	0	0	0	0	0	0	0	418	
1	dlspflma	1991	0	150	1841	610	0	38	572	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	dnlnflwm	3271	0	247	3024	5366	0	54	5312	5103	0	86	5017	440	0	1	439	24	0	0	24	0	
3	drbhflma	33426	1223	3849	28354	17197	85	2069	15043	3119	448	348	2323	10825	0	1203	9622	1556	153	160	1243	85	
4	dybhflfn	3003	17	347	2639	583	0	27	556	20	0	1	19	349	0	48	301	0	0	0	0	0	
5	dybhflma	26302	721	4063	21518	17710	0	1949	15761	3936	205	416	3315	2733	0	344	2389	244	40	31	173	0	
6	dybhflob	19900	382	2450	17068	12288	0	1114	11174	1665	42	194	1429	6026	0	370	5656	540	22	55	463	0	
7	dybhflos	6363	5	568	5790	611	0	45	566	134	0	14	120	896	0	71	825	4	0	0	4	0	
8	dybhflpo	24736	295	2667	21774	18830	1	1634	17195	6111	106	629	5376	7015	0	484	6531	1307	75	120	1112	1	
9	eglIflbg	17124	249	1847	15028	32046	134	2576	29336	574	29	59	486	11956	2	774	11180	371	76	11	284	136	
0	eglIflih	16714	12	1706	14996	2470	0	201	2269	226	0	26	200	1452	0	108	1344	58	0	3	55	0	
1	eornflma	1295	0	32	1263	2295	0	79	2216	1032	0	35	997	1204	0	15	1189	252	0	10	242	0	
2	fibhflma	3225	0	420	2805	364	0	28	336	1149	0	86	1063	423	0	55	368	637	0	60	577	0	
3	flrnscma	27292	14	3769	23509	28338	0	2582	25756	102	0	19	83	17775	0	1249	16526	210	1	20	189	0	
4	fbhflfp	9523	2	1109	8412	7879	0	608	7271	1290	0	129	1161	2563	0	219	2344	373	0	21	352	0	
5	ftgrflma	308	0	8	300	437	0	10	427	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	fldflap	700	0	72	628	1950	0	135	1815	51	2	0	49	0	0	0	0	0	0	0	0	0	
7	fldflcr	42250	2044	5346	34860	4599	1	318	4280	1124	47	105	972	3668	0	143	3525	191	49	7	135	1	
8	fldflcy	35426	1855	4262	29309	4600	6	543	4051	1381	220	83	1078	453	0	1	452	664	28	25	611	6	
9	fldflja	28811	1267	4315	23229	44956	124	4407	40425	3159	422	355	2382	29214	10	2392	26812	646	209	24	413	134	

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 43
Supra's modified version of BellSouth's Response to Supra's Interrogatory 20-24 (See DAN – 42)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
2		(24)	(24)	(24)	(24)	(20)	(20)&(22)	(20)	(20)	(23)	(23)	(23)	(23)	(21)	(21)&(22)	(21)	(21)	(21)	(21)	(21)	(21)	(22)	
3						DLC	DLC	DLC	DLC	DLC	DLC	DLC	DLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	DLC/NGDLC	
4		Copper	Copper	Copper	Copper	Integrated	Integrate	Integrated	Integrated	Universal	Universal	Universal	Universal	Integrated	Integrate	Integrated	Integrated	Universal	Universal	Universal	Universal	SideDoor	
5	WireCenter	Tot Wkg	UNE-L	UNE-P	Other*	TotWkg	UNE-L	UNE-P	Other*	Tot Wkg	UNE-L	UNE-P	Other	TotWkg	UNE-L	UNE-P	Other*	TotWkg	UNE-L	UNE-P	Other*	UNE-L Tot	
10	ftldflmr	59874	4494	6895	48485	14206	39	1259	12908	161	19	6	136	3487	30	199	3258	210	89	25	96	69	
11	ftldfloa	48475	1974	10766	35735	8083	10	1303	6770	2140	358	262	1520	1183	0	173	1010	1122	26	38	1058	10	
12	ftldflpl	37494	2547	6238	28709	14410	51	2131	12228	7195	1094	788	5313	1566	1	274	1291	233	90	32	111	52	
13	ftldflsg	0	0	0	0	5250	0	806	4444	824	0	67	757	118	0	0	118	61	0	0	61	0	
14	ftldflsu	34768	665	6096	28007	10548	554	1925	8069	3195	62	444	2689	0	0	0	0	0	0	0	0	554	
15	ftldflwn	4425	63	749	3613	29508	73	3734	25701	1795	118	236	1441	22572	51	2723	19798	554	225	31	298	124	
16	ftprflma	35633	474	3914	31245	25456	0	1108	24348	6572	154	367	6051	7006	0	175	6831	445	32	23	390	0	
17	gcspflcn	5017	6	299	4712	2450	0	120	2330	2539	0	118	2421	124	0	6	118	380	0	11	369	0	
18	gcvlflma	2709	0	89	2620	497	0	16	481	440	0	17	423	93	0	1	92	221	0	1	220	0	
19	genvflma	1392	0	46	1346	937	0	42	895	652	0	19	633	0	0	0	0	64	0	0	64	0	
20	glbrflmc	5133	18	538	4577	8452	0	832	7620	4340	13	423	3904	2362	0	160	2202	95	2	8	85	0	
21	gsvlflma	45511	156	3825	41530	48553	41	3468	45044	9904	21	721	9162	18069	0	829	17240	791	8	9	774	41	
22	gsvlflnw	7667	20	930	6717	6780	0	526	6254	1844	2	174	1668	3461	0	248	3213	87	1	3	83	0	
23	havnflma	2386	0	78	2308	1563	0	27	1536	829	0	28	801	382	0	1	381	302	0	2	300	0	
24	hbsdflma	8990	11	944	8035	1647	0	136	1511	615	1	37	577	742	0	48	694	77	0	0	77	0	
25	hlnvflma	1900	0	130	1770	8161	0	381	7780	1144	0	60	1084	8290	0	335	7955	384	0	24	360	0	
26	hlwdflha	28033	519	4673	22841	9	0	1	8	3078	118	459	2501	2700	8	319	2373	0	0	0	0	8	
27	hlwdflma	40866	1731	7508	31627	8407	32	1173	7202	1348	318	124	906	11941	0	194	11747	87	36	0	51	32	
28	hlwdflpe	21012	1277	4766	14969	98759	916	15133	82710	875	192	94	589	69489	27	10114	59348	2530	1190	161	1179	943	
29	hlwdflwh	65364	3811	14062	47491	17952	102	2259	15591	2856	182	256	2418	8451	12	1209	7230	371	186	16	169	114	
30	hmstflea	1243	0	84	1159	482	0	8	474	66	0	0	66	934	0	61	873	71	0	10	61	0	
31	hmstflhm	22976	74	3789	19113	12987	0	1360	11627	2218	1	230	1987	5244	0	496	4748	528	2	55	471	0	
32	hmstflna	8685	0	1038	7647	1702	0	130	1572	244	0	25	219	1286	0	143	1143	1809	0	146	1663	0	
33	htisflma	13407	1	991	12415	3923	0	333	3590	1382	3	151	1228	769	0	59	710	77	0	3	74	0	
34	hwthflma	1366	0	52	1314	1440	0	43	1397	908	0	16	892	180	0	2	178	0	0	0	0	0	
35	islmflma	2282	1	203	2078	1784	0	119	1665	469	0	39	430	664	0	32	632	22	0	0	22	0	
36	jayyflma	1309	0	33	1276	1780	0	48	1732	130	0	7	123	0	0	0	0	0	0	0	0	0	
37	jcbhflab	1443	2	117	1324	6772	0	592	6180	999	0	84	915	2588	0	243	2345	60	4	1	55	0	
38	jcbhflma	18095	515	1557	16023	11770	264	1169	10337	2678	19	133	2526	0	0	0	0	0	0	0	0	264	
39	jcbhflsp	3738	10	403	3325	5420	0	398	5022	403	0	25	378	3971	0	322	3649	240	0	27	213	0	
40	jcvlflar	20087	835	2225	17027	4190	22	438	3730	819	44	38	737	2422	9	227	2186	150	59	2	89	31	
41	jcvlflbw	11488	563	1003	9922	19929	53	1194	18682	2751	299	147	2305	17626	21	1050	16555	1195	228	57	910	74	
42	jcvlflcl	36892	1452	2864	32576	4460	45	433	3982	4133	353	242	3538	1478	7	212	1259	448	85	36	327	52	
43	jcvlflfc	11901	276	1306	10319	3050	31	267	2752	338	20	26	292	1567	0	176	1391	253	2	48	203	31	
44	jcvlflia	624	4	95	525	1474	0	160	1314	14	0	6	8	0	0	0	0	0	0	0	0	0	
45	jcvlfljt	1795	121	86	1588	2796	7	178	2611	427	16	18	393	1296	0	50	1246	181	23	0	158	7	
46	jcvlfllf	23172	319	1978	20875	8250	77	537	7636	1317	11	122	1184	0	0	0	0	0	0	0	0	77	
47	jcvlflno	16154	435	2026	13693	7888	61	746	7081	1615	187	112	1316	4561	0	454	4107	3405	97	217	3091	61	
48	jcvlflow	7727	168	560	6999	8451	0	501	7950	3335	74	217	3044	2203	0	80	2123	324	8	25	291	0	
49	jcvlflrv	25739	915	2602	22222	1767	53	95	1619	5504	75	147	5282	0	0	0	0	0	0	0	0	53	
50	jcvlflsj	25174	1397	2253	21524	5045	9	420	4616	7079	546	561	5972	798	0	70	728	118	45	11	62	9	
51	jcvlflsm	15393	1011	1319	13063	2866	8	285	2573	1606	216	78	1312	393	0	37	356	160	25	4	131	8	
52	jcvlflwc	17895	386	2425	15084	18886	12	1871	17003	2102	66	205	1831	7774	0	574	7200	707	59	59	589	12	
53	jptrflma	23505	995	2060	20450	19081	0	1498	17583	3324	447	229	2648	1064	0	33	1031	15185	194	426	14565	0	
54	kyhgflma	3395	0	197	3198	2555	0	119	2436	924	0	39	885	0	0	0	0	0	0	0	0	0	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
		(24)	(24)	(24)	(24)	(20)	(20)&(22)	(20)	(20)	(23)	(23)	(23)	(23)	(21)	(21)&(22)	(21)	(21)	(21)	(21)	(21)	(21)	(22)	
		Copper	Copper	Copper	Copper	DLC	DLC	DLC	DLC	DLC	DLC	DLC	DLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	DLC/NGDLC	
	WireCenter	Tot Wkg	UNE-L	UNE-P	Other*	Integrated TotWkg	Integrate UNE-L	Integrated UNE-P	Integrated Other*	Universal Tot Wkg	Universal UNE-L	Universal UNE-P	Universal Other*	Integrated TotWkg	Integrate UNE-L	Integrated UNE-P	Integrated Other*	Universal TotWkg	Universal UNE-L	Universal UNE-P	Universal Other*	SideDoor UNE-L Tot	
5	kylrflls	4788	0	582	4206	2719	0	294	2425	925	0	112	813	214	0	28	186	5	0	0	5	0	
6	kylrflma	3593	0	479	3114	5054	0	424	4630	813	0	54	759	43	0	1	42	0	0	0	0	0	
7	kywsflma	16800	0	1889	14911	8365	0	639	7726	1370	0	72	1298	3811	0	298	3513	692	0	27	665	0	
8	lkcyflma	10466	17	764	9685	13622	0	529	13093	5626	0	250	5376	394	0	27	367	104	0	3	101	0	
9	lkmrflhe	440	0	0	440	12131	0	805	11326	1156	108	126	922	9888	0	542	9346	683	204	0	479	0	
10	lyhnfloh	6214	4	341	5869	2286	0	87	2199	199	0	9	190	2456	0	67	2389	502	0	13	489	0	
11	mcnpflma	881	1	29	851	428	0	8	420	140	0	1	139	0	0	0	0	0	0	0	0	0	
12	mdbgflpm	3022	7	185	2830	5633	0	168	5465	6079	0	200	5879	1466	0	17	1449	2504	0	64	2440	0	
13	miamflae	58897	2562	6645	49690	4594	3	596	3995	7	6	0	1	4978	0	430	4548	552	167	20	365	3	
14	miamflal	29461	429	5030	24002	1867	64	174	1629	0	0	0	0	3339	12	259	3068	0	0	0	0	76	
15	miamflap	5546	51	555	4940	1918	0	82	1836	288	1	3	284	1954	0	77	1877	563	0	0	563	0	
16	miamflba	30705	507	3581	26617	2005	34	226	1745	3736	16	142	3578	0	0	0	0	0	0	0	0	34	
17	miamflbc	15433	656	2138	12639	221	0	39	182	434	0	24	410	69	18	4	47	0	0	0	0	18	
18	miamflbr	36687	1086	4350	31251	5168	75	566	4527	852	13	40	799	11063	0	961	10102	694	144	84	466	75	
19	miamflca	48965	1059	6967	40939	61152	7	5175	55970	3986	261	417	3308	43798	0	2865	40933	570	136	42	392	7	
20	miamfldb	3848	5	335	3508	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	miamflfl	31580	621	4571	26388	728	0	80	648	25	12	0	13	369	0	48	321	35	7	6	22	0	
22	miamflgr	34718	1862	3090	29766	2688	0	319	2369	2101	157	153	1791	4732	0	359	4373	655	107	22	526	0	
23	miamflhl	51299	2492	8449	40358	66173	150	8240	57783	10140	1111	1494	7535	45690	0	4808	40882	1357	524	68	765	150	
24	miamflic	34485	495	4888	29102	3652	0	414	3238	893	54	119	720	1946	0	265	1681	270	21	10	239	0	
25	miamflke	9090	20	838	8232	288	2	19	267	2064	0	224	1840	31	3	1	27	0	0	0	0	5	
26	miamflme	18727	27	2496	16204	1187	0	285	902	630	0	50	580	0	0	0	0	0	0	0	0	0	
27	miamflnm	27158	673	6428	20057	622	0	108	514	68	0	11	57	815	0	233	582	36	2	6	28	0	
28	miamflns	27748	448	5407	21893	1729	0	316	1413	1919	0	511	1408	190	3	18	169	0	0	0	0	3	
29	miamflol	24484	560	6101	17823	2728	0	646	2082	2831	70	436	2325	719	0	122	597	4347	44	460	3843	0	
30	miamflpb	35049	1133	5298	28618	1465	0	99	1366	5080	350	612	4118	1436	0	99	1337	6562	50	251	6261	0	
31	miamflpl	26483	3141	2922	20420	46037	418	3827	41792	1795	235	162	1398	26273	6	1804	24463	1836	935	52	849	424	
32	miamflrr	39382	2003	3326	34053	7975	7	430	7538	2351	182	96	2073	3325	0	213	3112	435	121	23	291	7	
33	miamflsh	34230	656	7990	25584	980	4	266	710	3153	6	149	2998	0	0	0	0	0	0	0	0	4	
34	miamflso	41916	1080	5476	35360	6769	0	823	5946	2247	140	161	1946	4669	0	373	4296	8492	256	240	7996	0	
35	miamflwd	25237	337	4193	20707	33533	17	4228	29288	1704	84	254	1366	20342	1	2024	18317	229	46	18	165	18	
36	miamflwm	33877	921	4248	28708	6318	0	830	5488	4982	191	334	4457	2628	0	162	2466	13761	154	160	13447	0	
37	miccflbb	5072	0	345	4727	1482	0	115	1367	138	0	14	124	1	0	0	1	0	0	0	0	0	
38	mlbrflma	32231	1233	3307	27691	53862	41	4923	48898	9353	494	827	8032	15754	0	1075	14679	755	139	41	575	41	
39	mltnflra	8407	10	358	8039	7775	0	190	7585	5344	3	146	5195	8790	0	180	8610	435	0	2	433	0	
40	mndrflav	1955	28	149	1778	3592	5	378	3209	506	49	31	426	2252	1	152	2099	317	32	3	282	6	
41	mndrfllo	13287	293	1053	11941	18083	46	1260	16777	2870	400	164	2306	4701	5	245	4451	963	230	20	713	51	
42	mndrfllw	2806	3	175	2628	3024	0	133	2891	340	0	11	329	5754	0	284	5470	1897	0	20	1877	0	
43	mnsnflma	214	0	2	212	348	0	4	344	141	0	3	138	0	0	0	0	0	0	0	0	0	
44	mrthflv	6094	0	686	5408	3987	0	384	3603	1035	0	85	950	1335	0	75	1260	131	0	3	128	0	
45	mxvflma	788	0	51	737	629	0	32	597	197	0	11	186	0	0	0	0	0	0	0	0	0	
46	ndadflac	33514	879	8132	24503	7852	11	804	7037	2072	114	249	1709	4584	0	383	4201	3780	121	324	3335	11	
47	ndadflbr	22286	405	5168	16713	12376	0	1975	10401	5023	60	780	4183	18817	0	3720	15097	1414	52	295	1067	0	
48	ndadflgg	28857	2947	5450	20460	2979	9	560	2410	478	96	82	300	1716	0	309	1407	127	82	6	39	9	
49	ndadflol	29683	755	4690	24238	4754	0	509	4245	7384	160	809	6415	5453	0	488	4965	5531	62	231	5238	0	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
2		(24)	(24)	(24)	(24)	(10)	(20)&(22)	(20)	(20)	(23)	(23)	(23)	(13)	(21)	(21)&(22)	(21)	(21)	(21)	(21)	(21)	(21)	(22)	
3						DLC	DLC	DLC	DLC	DLC	DLC	DLC	DLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	NGDLC	DLC/NGDLC	
4		Copper	Copper	Copper	Copper	Integrated	Integrated	Integrated	Integrated	Universal	Universal	Universal	Universal	Integrated	Integrated	Integrated	Integrated	Universal	Universal	Universal	Universal	SideDoor	
5	WireCenter	TotWkg	UNE-L	UNE-P	Other*	TotWkg	UNE-L	UNE-P	Other*	Tot Wkg	UNE-L	UNE-P	Other	TotWkg	UNE-L	UNE-P	Other*	TotWkg	UNE-L	UNE-P	Other*	UNE-L Tot	
40	nklrflma	2811	0	111	2700	17	0	2	15	759	0	32	727	0	0	0	0	0	0	0	0	0	
41	nsbhflma	15822	43	3404	12375	8794	0	1712	7082	8738	1	1809	6928	1770	0	192	1578	1271	2	189	1080	0	
42	nwbyflma	1346	0	92	1254	1779	0	30	1749	1615	0	21	1594	0	0	0	0	0	0	0	0	0	
43	okhlflma	1483	0	118	1365	921	0	47	874	0	0	0	0	0	0	0	0	0	0	0	0	0	
44	oltwflln	1262	0	44	1218	2505	0	36	2469	1036	0	16	1020	0	0	0	0	0	0	0	0	0	
45	orldflap	23820	763	3121	19936	60098	190	5777	54131	12112	829	1237	10046	34124	2	2636	31486	1729	322	133	1274	192	
46	orldflcl	23879	1194	2240	20445	4288	16	371	3901	1953	138	144	1671	1758	19	125	1614	90	29	4	57	35	
47	orldflma	39507	3132	3310	33065	17637	1044	1812	14781	4350	203	396	3751	0	0	0	0	0	0	0	0	1044	
48	orldflpc	21598	1498	2295	17805	47144	317	5423	41404	11318	1453	1051	8814	20892	18	2195	18679	1445	345	100	1000	335	
49	orldflph	29253	1562	4600	23091	57940	421	7344	50175	5594	851	482	4261	15904	13	1757	14134	1348	271	77	1000	434	
50	orldflsa	12471	977	1355	10139	13092	83	1466	11543	2549	325	236	1988	5488	56	825	4607	1284	285	75	924	139	
51	orpkflma	11413	372	1247	9794	15213	0	902	14311	1922	164	194	1564	9768	0	488	9280	3658	135	245	3278	0	
52	orpkflrw	9359	40	1209	8110	1637	0	158	1479	1043	4	106	933	7465	1	335	7129	0	0	0	0	1	
53	ovidflca	5252	252	552	4448	22402	3	1977	20422	2850	172	257	2421	8877	0	654	8223	630	119	34	477	3	
54	paceflpv	5477	13	455	5009	4264	0	210	4054	2225	1	107	2117	1030	0	71	959	59	0	0	59	0	
55	pankflma	3235	3	841	2391	338	0	98	240	45	0	3	42	0	0	0	0	0	0	0	0	0	
56	pcbhlnt	5185	9	339	4837	14628	0	1004	13624	2937	6	201	2730	3251	0	132	3119	525	2	25	498	0	
57	plcsflma	7236	0	640	6596	12502	0	807	11695	934	0	61	873	4698	0	244	4454	792	0	47	745	0	
58	plskflma	9454	6	917	8531	9716	0	468	9248	2506	0	130	2376	952	0	51	901	86	0	1	85	0	
59	pmbhflcs	30662	1709	54561	23497	38642	108	5204	33330	2105	152	239	1714	14850	0	1779	13071	1172	231	129	812	108	
60	pmbhflfc	46989	1641	6829	38519	17561	9	1867	15685	4317	496	456	3365	7719	0	433	7286	943	113	130	700	9	
61	pmbhflma	45433	1724	7155	36554	27797	100	4070	23627	6471	1024	750	4697	4093	0	395	3698	162	43	3	116	100	
62	pmbhflta	24338	775	5430	18133	12647	11	2139	10497	938	60	121	757	3654	0	490	3164	288	32	17	239	11	
63	pmpkflma	1834	0	56	1778	1356	0	29	1327	307	0	10	297	0	0	0	0	0	0	0	0	0	
64	pncyflca	4777	1	319	4457	839	0	42	797	719	0	44	675	239	0	12	227	44	0	2	42	0	
65	pncyflma	20732	44	1997	18691	11782	0	1169	10613	4748	23	475	4250	2918	0	292	2626	461	16	23	422	0	
66	pnscflbl	27042	995	3033	23014	11395	0	1013	10382	6602	95	834	5673	9920	0	741	9179	765	67	47	651	0	
67	pnscflfp	17904	272	2045	15587	26475	0	2647	23828	8584	256	1020	7308	8389	0	704	7685	760	130	48	582	0	
68	pnscflhc	4422	4	457	3961	3765	0	329	3436	1567	0	149	1418	963	0	79	884	372	1	23	348	0	
69	pnscflpb	3358	1	321	3036	1079	0	106	973	464	0	34	430	2874	0	260	2614	351	0	35	316	0	
70	pnscflwa	20040	154	2632	17254	15606	0	1415	14191	2585	18	271	2296	8099	0	505	7594	108	14	4	90	0	
71	pnvdlfma	7205	21	520	6664	11191	3	793	10395	1636	12	111	1513	3317	0	216	3101	157	4	1	152	3	
72	prmflma	48010	3157	5880	38973	64021	2	4321	59698	9949	1385	1096	7468	56515	0	3309	53206	3687	1844	93	1750	2	
73	prsnflfd	1616	0	97	1519	1184	0	42	1142	407	0	26	381	0	0	0	0	0	0	0	0	0	
74	ptslflma	14247	7	1284	12956	34919	0	2301	32618	9142	17	869	8256	15398	0	643	14755	543	2	47	494	0	
75	ptslflso	12069	41	1393	10635	4271	0	543	3728	387	1	40	346	1607	0	186	1421	139	1	12	126	0	
76	sbstflfe	1838	0	113	1725	41	0	1	40	182	0	2	180	0	0	0	0	0	0	0	0	0	
77	sbstflma	7804	18	488	7298	7833	0	346	7487	1889	1	113	1775	3105	0	197	2908	134	0	3	131	0	
78	sgkyflma	504	0	13	491	2893	0	97	2796	544	0	17	527	689	0	17	672	36	0	0	36	0	
79	snfrflma	12889	508	2087	10294	34569	32	4413	30124	8598	553	1196	6849	17398	3	1822	15573	948	208	49	691	35	
80	stagflbs	6886	5	527	6354	3131	0	219	2912	672	0	39	633	3019	0	257	2762	389	0	25	364	0	
81	stagflma	10227	409	1003	8815	19531	128	1388	18015	1202	169	134	899	8405	2	458	7945	539	155	21	363	130	
82	stagflsh	5132	6	510	4616	3894	2	441	3451	604	0	69	535	1191	0	98	1093	88	2	7	79	2	
83	stagflwg	3688	0	134	3554	4034	0	157	3877	84	0	0	84	8	0	0	8	0	0	0	0	0	
84	strtflma	27684	815	3121	23748	36178	2	2887	33289	9589	346	914	8329	15120	2	811	14307	1059	158	38	863	4	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
		(24)	(24)	(24)	(24)	(20)	(20)&(22)	(20)	(20)	(23)	(23)	(23)	(23)	(21)	(21)&(22)	(21)	(21)	(21)	(21)	(21)	(21)	(22)	
5	WireCenter	Copper Tot Wkg	Copper UNE-L	Copper UNE-P	Copper Other*	DLC Integrated TotWkg	DLC Integrate UNE-L	DLC Integrated UNE-P	DLC Integrated Other*	DLC Universal Tot Wkg	DLC Universal UNE-L	DLC Universal UNE-P	DLC Universal Other-	NGDLC Integrated TotWkg	NGDLC Integrate UNE-L	NGDLC Integrated UNE-P	NGDLC Integrated Other*	NGDLC Universal TotWkg	NGDLC Universal UNE-L	NGDLC Universal UNE-P	NGDLC Universal Other*	DLC/NGDLC SideDoor UNE-L Tot	
35	syhsflcc	687	0	7	680	907	0	16	891	376	0	9	367	0	0	0	0	0	0	0	0	0	
86	trenflma	2179	0	155	2024	2333	0	66	2267	917	0	32	885	0	0	0	0	0	0	0	0	0	
87	trvlflma	18078	435	1584	16059	13472	0	1040	12432	4400	231	297	3872	1967	0	137	1830	193	20	14	159	0	
88	vernflma	958	0	51	907	1145	0	25	1120	240	0	4	236	0	0	0	0	0	0	0	0	0	
89	vrbhflbe	8541	6	869	7666	4094	0	220	3874	1713	0	119	1594	1518	0	107	1411	598	0	19	579	0	
90	vrbhflma	25775	580	2883	22312	24371	1	2026	22344	8192	200	763	7229	9271	0	534	8737	742	50	43	649	1	
91	welkflma	1664	0	56	1608	970	0	17	953	131	0	1	130	93	0	1	92	18	0	0	18	0	
92	wpbhflan	33101	1900	3015	28186	6203	8	468	5727	1994	100	103	1791	3232	0	364	2868	3244	261	100	2883	8	
93	wpbhflga	50863	2460	6655	41748	47898	43	5198	42657	5600	856	562	4182	29306	0	2683	26623	2141	681	142	1318	43	
94	wpbhflgr	24867	1571	1989	21307	37120	14	2094	35012	4596	362	269	3965	26617	0	1281	25336	2038	568	70	1400	14	
95	wpbhflhh	38733	2038	5010	31685	31956	166	3433	28357	3731	771	245	2715	13197	0	1046	12151	1139	305	30	804	166	
96	wpbhflie	40853	1640	5421	33792	3670	0	326	3344	1017	171	114	732	261	0	11	250	2436	6	98	2332	0	
97	wpbhflrb	28663	1084	3790	23789	14929	953	1775	12201	14131	123	536	13472	0	0	0	0	0	0	0	0	953	
98	wpbhflrp	11988	326	1272	10390	56212	79	4614	51519	3276	341	267	2668	31739	0	2270	29469	2057	336	92	1629	79	
99	wwspflhi	2027	0	199	1828	9316	0	646	8670	3755	0	386	3369	269	0	41	228	0	0	0	0	0	
00	wwspflsh	11004	2	1509	9493	19571	0	2657	16914	3083	0	505	2578	413	0	50	363	40	0	4	36	0	
01	ynfnflma	717	0	14	703	395	0	6	389	2097	0	51	2046	112	0	0	112	510	0	11	499	0	
02	yntwflma	1465	0	82	1383	947	0	9	938	537	0	15	522	0	0	0	0	0	0	0	0	0	
03	yuleflma	2170	0	120	2050	2156	0	93	2063	1073	0	31	1042	0	0	0	0	0	0	0	0	0	
04	SubTotal (with dups)	3,250.835	107.617	425.786	2,717.432	2,306.452	7.916	223.735	2,074.801	523.191	26.639	44.562	451.990	1,108.435	343	91.923	1,016.169	167.211	15.233	8.796	143.182	8.259	7,364.383
05	SubTotal Wkg	3,250.835				2,306.452				523.191				1,108.435				167.211				8.259	6,080.478
06	Total Wkg	3,250.835				2,306.452				523.191													
07																		N/A					100.00%
08	% of IDLC	N/A				51.94% (NGDLC Adjusted out)				68.04% (NGDLC Adjusted out)				48.06% (%NGDLC of IDLC)				N/A					100.00%
09	% of NGDLC	N/A												N/A				31.96% (%NGDLC of UDLC)					
10	Percent of all - No subcat IDLC/NGDLC	53.46%				37.93% (All)				8.60%				N/A				N/A					100.00%
11	Percent of all (adjusted for dup count)	53.46%				19.70% (IDLC Not NGDLC all)				5.85% (UDLC Not NGDLC all)				18.23% (%NGDLC of all)				2.75% (%NGDLC - UDLC of all)					100.00%
12																							

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 44
Supra's high level Analysis – statewide weighted cost

		% INA	Group	Rate	Statewide weighted
Copper	53.46%		1	$11.23	$6.00
IDLC - Not NGDLC Capable	19.70%	75%	N/A		
IDLC - Not NGDLC Capable - INA capable		14.8%		$0.10	$0.02
IDLC - Not NGDLC Capable, Not INA capable		4.9%		$60.76	$2.99
IDLC - NGDLC Capable	18.23%			$0.10	$0.02
UDLC - Not NGDLC	5.85%			$11.23	$0.66
UDLC - NGDLC Capable	2.75%			$0.10	$0.00
	100.00%				$9.69

BELLSOUTH

BellSouth Unbundled Loop Concentration

Docket No. 040301-TP
David A. Nilson
EXHIBIT DAN – 5
10/08/2004 – BellSouth WORST CASE NRC Co
Study – Created by Supra from the 10/08/2001
A.1.1 and A.1.2 NRC cost study of loops served b
Copper/UDLC

Unbundled Loop Concentration
CLEC Information Package

(Version 1)

BellSouth Unbundled Loop Concentration

Table of Contents

BellSouth Unbundled Loop Concentration

Introduction & Scope

This Product Information Package is intended to provide to CLECs a product description and general ordering information specific to the UNE described herein. Detailed ordering guidelines are provided in documents located on the BellSouth Interconnection Web site.

The information contained in this document is subject to change. BellSouth will provide notification of changes to the document through the CLEC Notification Process.

Please contact your BellSouth Account Manager, if you have any questions about the information contained herein.

BellSouth Unbundled Loop Concentration

Service Description

Unbundled Loop Concentration (ULC) is an expandable unit that allows multiple unbundled loops to be concentrated onto DS1 level circuits within the BellSouth serving wire center (SWC) where the loop terminates onto the Main Distribution Frame (MDF).

ULC can be provided with either a TR008 or a TR303 interface.

Service Capabilities

ULC will allow a CLEC to concentrate multiple unbundled loops at a BellSouth central office onto multiple DS1s for the purpose of transporting unbundled loops (at a concentrated level) from a BellSouth central office back to the CLEC's collocation space, and ultimately to the CLEC's switch.

The unbundled loops will terminate at the MDF and then will be connected to the concentrator through the use of Loop Interface element. The ULC will then concentrate the loops onto two, three, four, or five DS1 interfaces (per system), depending on the total number of loops and the desired concentration and protection levels. At this point, the concentrator would deliver the DS1 interfaces to the Digital Cross-Connection (DSX) at that central office. From the DSX, a CLEC would be able to cross-connect the DS1s to its collocation space.

BST will not concentrate loops from multiple wire centers onto DS1 digital interoffice transport facilities.

BellSouth Unbundled Loop Concentration

Technical Requirements

The ULC Concentration Functionality (ULC-CF) is the heart of the ULC system. It is the unit that performs the concentration capability. The ULC is offered as 96-channel systems employing either the TR008 or TR303 standard and will come in four versions:

- ULC–TR008/System A allows loop concentration up to 96 UVL/UDLs on to multiple DS1s.
- ULC–TR008/System B allows loop concentration up to an additional 96 UVL/UDLs.
- ULC–TR303/System A allows loop concentration up to 96 circuits on to multiple DS1s.
- ULC–TR303/System B allow loop concentration up to an additional 96 UVL/UDLs.

While there are up to 96 channels available on a ULC system, some loop types will require two channels. Depending on the type of circuits the CLEC orders, the system may serve less than 96 circuits. See the table below for the requirements by circuit type.

CKT TYPE	Channels Required
2W VOICE LOOP INTERFACE (POTS CARD)	1 CHANNEL
2W VOICE LOOP INTERFACE (DID SPOTS CARD)	1 CHANNEL
2W ISDN LOOP INTERFACE (BRITE CARD)	2 CHANNELS
2W UDC LOOP INTERFACE (BRITE CARD)	2 CHANNELS
4W VOICE LOOP INTERFACE (SPECIALS CARD)	2 CHANNELS
4W DATA LOOP INTERFACE (SPECIALS CARD)	2 CHANNELS

ULC consists of a digital loop carrier (DLC) system located in BellSouth's central office. Lucent Series 5 will be used as the DLC equipment. The DLC is connected to the CLEC via two, three, four or five DS1 facilities. The DS1 facilities will be routed to the CLEC collocation space within the BellSouth central office that serves the end user

BellSouth Unbundled Loop Concentration

Technical Requirements (continued)

TR0908 Standards

- Minimum of 2 DS1s with a 2 to 1 concentration per system; or can be configured with 4 DS1s for 96 channels per system.
- Optional protect DS1 channel can be ordered per 96-channel group.
- May be optioned as AMI/SF or B8ZS/SF.
- Systems are designated as System A and System B.
- System A is the first 96-channel system in a dual channel bank; System B is the second 96 channel system in the same dual channel bank.
- ULC configured with a System A and System B can provide up to 192 channels.
- **Must have a System A prior to ordering a System B.**
- System A and System B may be optioned differently.

TR303 Standards

- Minimum of 2 DS1s is required and can grow by increments of one DS1 to a maximum of 4 per system.
- Optional protect DS1 channel can be ordered per 96-channel group.
- Optioned as B8ZS/ESF.
- Systems are designated as System A and System B.
- System A is the first 96-channel system in a dual channel bank; System B is the second 96 channel system in the same dual channel bank.
- ULC configured with a System A and System B can provide up to 192 channels.
- **Must have a System A prior to ordering a System B.**
- System A and System B may be optioned differently.

BellSouth Unbundled Loop Concentration

Technical Requirements (continued)

Interfaces

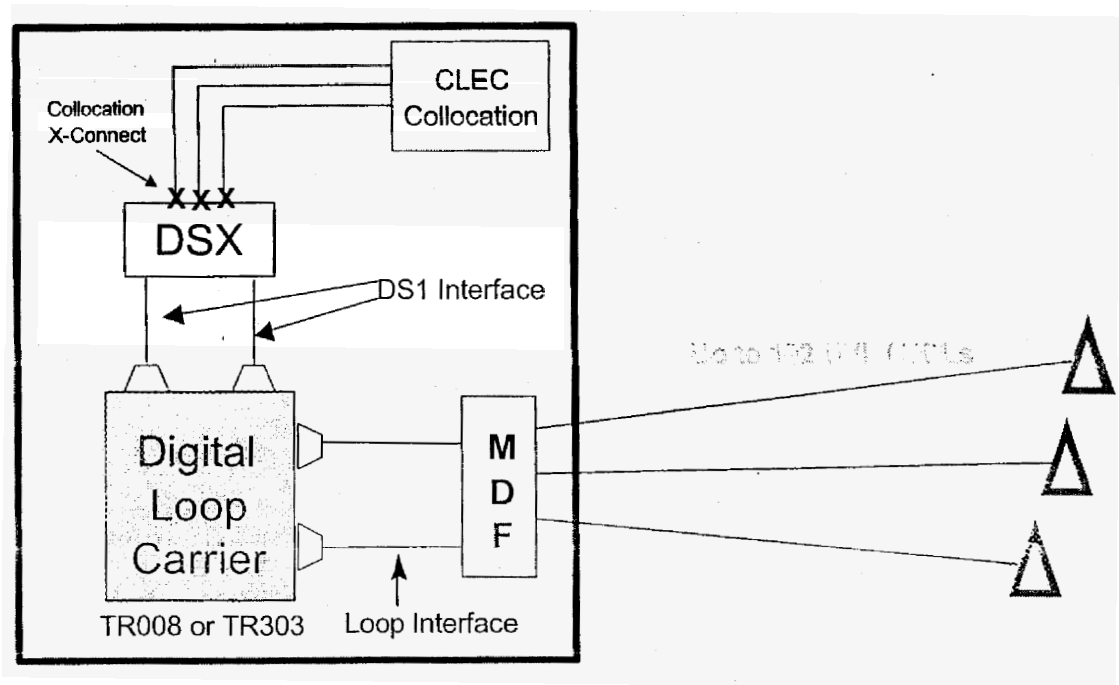
ULC Loop Interface (ULC-LI) is the interface that provides the connection between the MDF and the concentration unit, as well as, the line card in the concentrator. One of these is needed for each loop that is attached to the ULC-CF unit. The LI is offered in the following configurations:

- **DS1 Interface** – provides a DS1 interface card in the loop concentration unit. When connected to a DS1 level cross-connect, this element provides the DS1 level bandwidth from the ULC-CF to the CLEC's collocation space
- **2 Wire Voice Loop Interface (POTS card)** – is a 2 wire loop interface for designed Unbundled Voice Loops (UVLs) with loop start or ground start signaling.
- **2 Wire Voice Loop Interface (SPOTS DID card)** - is a 2 wire loop interface for designed UVLs with reverse battery signaling.
- **2 Wire ISDN Loop Interface (BRITE card)** – is a 2 wire loop interface for Unbundled Digital Loops (UDLs) capable of providing ISDN service and Universal Digital Channel (UDC).
- **4 Wire Voice Loop Interface (SPECIALS card)** – is a 4-wire loop interface for UVLs capable of providing FX and other special services.
- **4 Wire Data Loop Interface** -- is a 4-wire loop interface for UDLs capable of providing DS0 digital loops.
- **Test Channel** -- is a loop interface that consists of two 2-wire circuits that allow the CLEC to perform MLT testing through the ULC.

Once these loop interface connections are made, the CLEC would be responsible for transporting the DS1 level circuits from their collocation space to their switch (or other equipment) needed to provide the desired telecommunications services offered by the CLEC.

BellSouth Unbundled Loop Concentration

Network Configuration



BellSouth Unbundled Loop Concentration

Ordering & Provisioning Process

ULC System Establishment

A Service Inquiry (SI) is required to establish the ULC system. However, a CLEC may submit a SI to inquire if ULC is available in the requested BellSouth serving wire center (SWC).

ULC Inquiry Only

- The CLEC will send the SI marked ***"Inquiry"*** to the BellSouth Complex Resale Services Group (CRSG) or Account Team Representative.
- Upon receipt of the SI, the CRSG/Account Team will forward to the appropriate BellSouth department where a determination will be made regarding ULC availability in the requested BellSouth SWC.
- Once the "Inquiry Only" SI is returned to the CRSG/Account Team, it will be forwarded to the CLEC with the availability information.

ULC Firm Order

- The CLEC will send the SI (Service Inquiry) marked ***Firm Order*** and the Local Service Request (LSR) to the CRSG/Account Team.
- Upon receipt of the SI and LSR, the CRSG/Account Team will forward the SI to the appropriate BellSouth department where a determination will be made regarding ULC availability in the requested BellSouth SWC.
- If the ULC is available in the requested SWC, the CRSG/Account Team will notify the CLEC of the due date (DD) of when ULC can be provided.
- CRSG/Account Team will also forward the completed ***Firm Order*** SI and LSR to the Local Carrier Service Center (LCSC) to begin the service ordering process.
- Upon receipt of the ***Firm Order*** SI and LSR, the LCSC will validate the SI and LSR to ensure that all needed information is provided to process the service orders.
  - **If the *Firm Order* SI and LSR are complete and accurate, then the LCSC Service Rep will process the service orders. The service order due date (DD) will be the due date on the *Firm Order* SI.**
  - **An Firm Order Confirmation (FOC) will then be issued to the CLEC and will contain the following:**

    System Common Language Circuit Identification (CLFID) for each DSI

    Service Order Number

    Due Date
  - If there is missing information on the **Firm Order** SI, then the SI and LSR are put into clarification and sent back to the CRSG/Account Team for the needed information. If the LSR is not **CLEAN** and **ACCURATE**, then the LSR goes into clarification to the CLEC.

BellSouth Unbundled Loop Concentration

Ordering & Provisioning Process (continued)

Loop Interface and the Loop

- Once the ULC system(s) is established, the CLEC may begin ordering the Loop Interfaces (LI) and appropriate unbundled loops that will be on the ULC system(s).
- A LSR must be submitted to the LCSC to order the LIs and associated unbundled loops.
- Upon receipt of an accurate LSR, the LCSC will issue the service order(s). The following information will be returned to the CLEC on a FOC:

  Loop Circuit ID
  Service Order Number
  Due Date
- Intervals will be set according to the target intervals established for unbundled loops in the **BellSouth Products & Services Interval Guide**.

BellSouth Unbundled Loop Concentration

Service Order Requirements

Local Service Request (LSR) form

The CLEC will complete a Local Service Request (LSR) form according to the **BellSouth Ordering Guide for CLECs** or the **BellSouth Business Rules for Local Ordering**.

ULC System Establishment - LSR Requirements

The following information that is unique to ULC System Establishment is also required on the LSR:

LSR Field	Information Required	
PON		
NC	**Definition**	**NC**
	TR008 Non-concentrated (96 loops to 4 DS1s) AMI/SF	HCKA
	TR008 Non-concentrated (96 loops to 4 DS1s) B8ZS/SF	HCKB
	TR008 Concentrated 96 loops to 2 DS1s AMI/SF	HCKD
	TR008 Concentrated 96 loops to 2 DS1s B8ZS/SF	HCKE
	TR303 Concentrated or non-concentrated B8ZS/ESF	HCLA
NCI	**Service**	**NCI**
	ULC – Collocation w/T1 TIE CFA	04QB9.11
	ULC – Collocation w/T3 TIE CFA	04QB6.33

BellSouth Unbundled Loop Concentration

Loop Interface and Loop Ordering - LSR Requirements

LSR Field	Information Required			
NC/NCI	**Loop Type**	**NC**	**NCI at CKL-1**	**SEC NCI at End User***
	2 Wire UVL – Loop Start Signaling	LY- -	O4QB9.11	02LS2
	2 Wire UVL – Ground Start Signaling	LY- -	04QB9.11	02GS2
	2 Wire UVL – Reverse Battery Signaling	LY- -	04QB9.11	02RV2.T
	4 Wire UVL – Loop Start Signaling	LY- -	04QB9.11	04LS2
	4 Wire UVL – Ground Start Signaling	LY- -	04QB9.11	04GS2
	4 Wire UDL – 56 Kbps Digital Signaling	LY- -	04QB9.11	04DU5.56
	4 Wire UDL – 64 Kbps Digital Signaling	LY- -	04QB9.11	04DU5.64
	2 Wire UDL – Basic Rate ISDN Signaling	LY- -	04QB9.11	02IS5
	2 Wire UDL – Unbundled Digital Channel	LY- -	02QC5.OOQ	02IS5
ECCKT	CLF ID (associated with DS1 and can be obtained from the ULC System Establishment FOC)			
CFA	Carrier Facility Assignment (must include the slot number)			

Service Inquiry (SI) form

A Service Inquiry is required for ordering an ULC system(s). The SI is in a separate document titled "**Unbundled Loop Concentration Service Inquiry**". This document contains instructions for preparing the SI.

LSR & SI Transmittal for System Establishment

- CLEC sends the firm order SI and LSR to a CRSG/Account Team Representative.
- The CLEC must submit the SI by email to the CRSG. The LSR should also be submitted via email. Refer to "**Guidelines for Interfacing with the CRSG UNE Group**" section for the submission requirements.
- CLEC should contact its BellSouth Account Team Representative for additional information regarding transmittal of SI and LSR if CRSG Representative is not known.

BellSouth Unbundled Loop Concentration

Rate Elements & USOCs

Rates for ULC must be included in your contract. Rates may be interim pending approval of final rates by the respective State Commissions.

System Rate Elements	USOC
ULC – TR008 System A – 96 Channels	UCT8A
ULC—TR008 System B – 96 Channels	UCT8B
ULC – TR303 System A – 96 Channels	UCT3A
ULC – TR303 System B – 96 Channels	UCT3B
ULC – DS1 Interface Central Office	UCTCO

Loop Interface Rate Elements	USOC
ULC Interface - 2 Wire Voice - Loop Start or Ground Start	ULCC2
ULC Interface - 2 Wire Voice – Reverse Battery	ULCCR
ULC Interface - 4 Wire Voice - Loop Start or Ground Start	ULCC4
ULC Interface – 2 Wire ISDN	ULCC1
ULC Interface – 2 Wire UDC	ULCCU
ULC Interface – 4 Wire Digital 56 Kbps	ULCC5
ULC Interface – 4 Wire Digital 64 Kbps	ULCC6
ULC Interface – Test Circuit	ULTTC

Other Non-Recurring Charges

Expedite Charge – applies if CLEC requests order interval of less than five days.

Manual Service Order -- applies if order is manually submitted and electronic ordering is available

Order Cancellation – applies if the CLEC cancels an order. This charge is for work associated with provisioning the ULC system, Loop Interfaces and the associated loops at the time the CLEC cancels an order.

Service Order Modification Charge – Applies if the CLEC modifies a service order after the Firm Order Confirmation has been issued.

Overtime Charge – Applies for work requested outside of normal working hours.

Time & Material – Applies for dispatch out if "no trouble found"

BellSouth Unbundled Loop Concentration

Intervals

ULC System Establishment

An ULC system establishment installation interval will be established on an individual case basis (ICB).

Loop Interfaces (LI) and the Loops

BellSouth will provision the requested LIs and loops after the receipt of an accurate LSR and SI according to the intervals for the requested loop type in the **BellSouth Products & Services Interval Guide.**

Maintenance & Repair Procedures

The CLEC is responsible for testing and pre-screening any trouble conditions to make sure the trouble is with Unbundled Loop Concentration (ULC) before calling BellSouth. If the CLEC's testing isolates the repair problem to ULC, the CLEC should notify the Unbundled Network Element (UNE) Center.

The CLEC must provide the following information to UNE Center when reporting a repair problem:

- For ULC System, provide System DS1 CLFID
- For loop(s), provide the loop circuit ID
- Description of the trouble

If BellSouth dispatches a technician on a CLEC reported trouble call and no ULC trouble is found, BellSouth will charge the CLEC for time spent on the dispatch and for time spent testing the ULC system.

BellSouth Unbundled Loop Concentration

Contract Specific Provisions

Before ULC can be ordered, the CLEC must have an Interconnection Agreement that includes terms, conditions and rates. This agreement must be in effect for all states where the CLEC plans to order ULC.

The information contained herein applies to the ULC general offering and is part the standard BellSouth agreement. The general offering is in accordance with BellSouth policies, procedures and regulatory obligations as well as the Standard Interconnection Agreement.

The general offering does not address specific contract issues within a CLEC's Interconnection Agreement that may be different from the general offering. Where specific contract issues differ from the information provided here, the contract provisions will prevail for the term of the specific CLEC Interconnection Agreement. Otherwise, the general offering provisions will apply.

BellSouth Unbundled Loop Concentration

Guidelines for Interfacing with the CRSG UNE Group

Email Transactions

- The CLEC **must** submit Service Inquiries (SIs) to the CRSG UNE Group via **email**.
- The CLEC should also submit the associated LSR via email.
- Submit only 1 PON (SI & LSR) per mail message
- The CRSG UNE Group email address is crsg.une@bridge.bellsouth.com
- Use the following guidelines in formatting the email subject header:

PON 12345 UNE NEW	for a new UNE order
PON 12345 CORRECTION	for a CLEC initiated correction or update
PON 12345 CLARIFICATION RESPONSE	for a clarification response
PON 12345 STATUS	for a status request
PON 12345 Cancel	for a cancellation

Facsimile Transactions for LSRs only

- Only LSRs may be submitted via facsimile
- Requests submitted via facsimile should be sent to 800-365-8108
- The following guidelines should be used for requests submitted via facsimile:
  - The request must be type written
  - A transmittal cover page must be used
  - The transmittal cover should include
    - PON Number(s)
    - Total number of pages transmitted
    - Contact information

BellSouth Unbundled Loop Concentration

Acronyms

AMI/SF	Alternate Mark Inversion/Super Frame
B8ZS/ESF	Binary Eight Zero Substitution/Extended Super Frame
B8ZS/SF	Binary Eight Zero Substitution/Super Frame
CLEC	Competitive Local Exchange Carrier
CLFID	Common Language Circuit Identification
CRSG	Complex Resale Services Group
DD	Due Date
DLC	Digital Loop Carrier
DSX	Digital Cross-Connection
FOC	Firm Order Confirmation
ICB	Individual Case Basis
LCSC	Local Carrier Service Center
LI	Loop Interface
LSOGv2	Local Service Ordering Guidelines version 2
LSOGv4	Local Service Ordering Guidelines version 4
LSR	Local Service Request
MDF	Main Distribution Frame
NC	Network Channel
NCI	Network Channel Interface
PON	Purchase Order Number
SEC NCI	Secondary Network Channel Interface
SI	Service Inquiry
SWC	Serving Wire Center
TR008	Technical Reference 008
TR303	Technical Reference 303
UDC	Universal Digital Channel
UDL	Unbundled Digital Loop
ULC	Unbundled Loop Concentration
ULC-CF	Unbundled Loop Concentration – Concentration Functionality
ULC-LI	ULC Loop Interface
UNE	Unbundled Network Element
UVL	Unbundled Voice Grade Loop