



December 6, 2001

Ms. Blanca Bayó, Director Division of the Commission Clerk & Administrative Services Florida Public Service Commission 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850 via Overnight Mail

Re: Docket No. 990649A-TP – Investigation into Pricing of Unbundled Network Elements

Dear Ms. Bayó,

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Please find enclosed for filing in the above docket an original and seven (7) copies of the Prefiled Rebuttal Testimony and Exhibit of Michael P. Gallagher. Also enclosed is a diskette containing a Word file of the prefiled testimony.

If you have any questions regarding the enclosed, please call me at 407-835-0460.

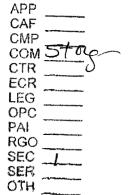
Sincerely

Matthew Feil

LOCAL

Florida Digital Network

General Counsel



DOCUMENT NUMBER - DATE

BEFORE THE	E FLORIDA PUBI	LIC SERVICE	COMMISSION
Investigation into landled Network Ele			Docket No. 990649A
REBUTTAL	TESTIMONY O	F MICHAEL (<u>GALLAGHER</u>
	ON BEHA	AL E OE	
	Florida Digital		
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	December	r 7, 200 1	

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1 O .	Please state	your name an	l business	address	for the	record.
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- 2 A. My name is Michael Gallagher. My current business address is 390 N.
- 3 Orange Avenue, Suite 2000, Orlando, Florida 32801.
- 4 Q. By whom are you employed and what is your position?
- 5 A. I am employed by Florida Digital Network, Inc. ("FDN"). I am FDN's
- 6 founder and serve as the company's President and Chief Executive Officer.
- 7 Q. What are your responsibilities as CEO of FDN?
- 8 A. As CEO of FDN, I am ultimately responsible to the shareholders for all
- 9 aspects of FDN's operations and performance. I am involved in the day-to-
- day business dealings of the company and the decision-making on everything
- from marketing and sales strategies, product development, network
- architecture and deployment, financing, human resources, customer care,
- regulatory changes, etc.
- 14 Q. Please describe your education and your work experience in the
- 15 telecommunications sector.
- 16 A. I received a B.S. Degree in Mathematics with a minor in Physics from
- 17 Rollins College. Prior to co-founding FDN in 1998, I served as Regional
- 18 Vice President for Brooks Fiber Communications where I had overall
- responsibility for operations, engineering, finance and sales in the State of
- Texas. Brooks Fiber Communications merged into WorldCom on January
- 21 31, 1998. Prior to holding the VP position at Brooks, I was President of
- Metro Access Networks (MAN), a second-generation Texas CLEC founded
- in 1993. At MAN, I developed all business strategies, designed network

architecture, secured contracts with the company's original customer base, and had overall responsibility for operations and performance. MAN merged into Brooks Fiber in March 1997. Prior to MAN, I worked for Intermedia Communications and Williams Telecommunications Group (WilTel) as sales representative, securing contracts with large commercial customers.

6 Q. Have you previously testified before this Commission?

7 A. Yes, I have testified in Docket No. 010098-TP (FDN's arbitration of an interconnection agreement with BellSouth) and in Docket No. 960786-TL (BellSouth's § 271 case).

Q. Please describe Florida Digital Network.

A.

FDN is a Florida-focused, full-service, facilities-based provider of local, interexchange, and advanced telecommunications services. FDN offers voice services, dial-up and dedicated data services, and, through an affiliate, Internet and other enhanced services. FDN was founded in 1998 with the mission of offering bundled service packages (local, long distance and Internet) to small- and medium-sized businesses. FDN launched operations in Orlando, Fort Lauderdale and Jacksonville in 1999, and in West Palm Beach, Miami and the Tampa Bay area in the first quarter of 2000. FDN provides service to these markets with its own Class 5 Nortel DMS-500 central office switches, which it connects to end-users through collocated facilities at more than 100 BellSouth wire centers, and through the purchase of unbundled network elements (UNEs) from ILECs such as BellSouth. Based upon information provided by BellSouth, FDN is the largest procurer

of UNE voice-grade loops from BellSouth in Florida. FDN does not at this time provide service using the UNE platform or resold services.

A.

Q. What is the purpose of your rebuttal testimony in this proceeding?

My rebuttal testimony will demonstrate that BellSouth, through its cost study filed on September 24, 2001 and revised on October 8, 2001, and its direct testimony filed on November 8, 2001, fails to offer a reasonable, workable solution to address the present inability of competitive carriers to offer xDSL services where BellSouth has deployed Digital Loop Carriers ("DLCs"). Many of the bases for my rebuttal testimony in this case are closely related to, and are addressed more extensively in, the direct testimony I submitted to the Commission in Docket No. 010098-TP, in which FDN is seeking an arbitration award that would require BellSouth to offer xDSL loops with unbundled packet switching. Rather than repeating all of those arguments here, I have attached a copy of pertinent excerpts of my direct testimony from the arbitration as Exhibit ___ (MPG-1), and I will refer to that exhibit it in this testimony as my "Arbitration Testimony."

The Commission must carefully consider the technical and pricing matters at issue in this docket if it is to require BellSouth to offer new UNEs that would enable competitive carriers to provide xDSL services where BellSouth has deployed Digital Loop Carriers (DLCs). As set forth in my Arbitration Testimony, BellSouth's DLC-dominated network architecture in Florida deprives ALECs of the opportunity to provide xDSL-based services to end-users and, therefore, the Commission should establish an end-to-end

1		xDSL UNE loop, including digital subscriber line access multiplexer
2		(DSLAM) functionality and transport, that would permit FDN to provide
3		xDSL-based services. If the Commission grants FDN's request in Docket
4		No. 010098 or if the Commission approves a new UNE or UNEs of a similar
5		nature in any other proceeding, reasonable TELRIC-based prices for such
6		new UNE or UNEs will need to be established in this docket.
7	Q.	Why do BellSouth's DLCs preclude ALECs from offering DSL service?
8	A.	DSL transmissions must be multiplexed into packetized data bits before the
9		data streams can be aggregated on high-volume transmission facilities bound
10		for the Internet. In the classic DSL model, this multiplexing is done by a
11		DSLAM located in the central office. However, where DLCs are deployed as
12		a break in the transmission path, this DSLAM function must be performed at
13		the remote terminal. Therefore, the carrier must locate at the remote terminal
14		a DSLAM or, in the case of Next Generation Digital Loop Carriers
15		("NGDLCs"), DSL-capable line cards that perform DSLAM functionality. In
16		my Arbitration Testimony, I explained why ALECs, unlike BellSouth, cannot
17		viably collocate DSLAMs or line cards at remote terminals. Therefore,
18		BellSouth today is the only carrier in Florida able to offer DSL service where
19		its DLCs are deployed.
20	Q.	Why is it important for the Commission to ensure that ALECs are able
21		to provide xDSL service where BellSouth has deployed DLCs?
22	A.	DSL is the only widely available technology that enables a consumer to
23		achieve high-speed data service over their existing copper telephone lines.

However, the development of competitive DSL services in BellSouth's region in Florida is thwarted by the fact that approximately 90% of BellSouth's Florida access lines now pass through DLCs. Therefore, the BellSouth region in Florida is effectively closed to DSL competition. As I explained in my Arbitration Testimony, FDN's inability to offer DSL services also undermines its viability in the voice services market, as customers increasingly are demanding bundled service offerings. The competitive disadvantages already suffered by ALECs will be magnified significantly if BellSouth obtains interLATA authority in Florida and thereby becomes the only carrier that can offer one-stop shopping of local, interexchange and DSL services on a ubiquitous basis.

A.

Q. What are the components of a "hybrid copper/fiber xDSL-capable loop?"

There are three components in any hybrid copper/fiber loop. The first two components are subloops: (1) the copper subloop between a remote terminal and a customer ("distribution"), and (2) the fiber subloop between a remote terminal and a central office ("feeder"). The third component is the DLC that connects the two subloops, together with any supporting equipment necessary to perform whatever switching functions may be required based upon the nature of the transmission. For circuit-switched voice traffic, this third component includes voice-grade DLC line cards that are used to pass the transmission from the distribution to the feeder. To be "xDSL-capable," however, the DLC component must either include DSL-capable line cards or,

1		if such cards are not supported by the DLC system, a DSLAM. The DSL line
2		card or DSLAM performs packet switching functionality at the remote
3		terminal so that it is possible to transmit the DSL-based services between the
4		distribution pairs and the feeders.
5	Q.	Does the term "hybrid copper/fiber x-DSL capable loop" appropriately
6		capture the definition of the new UNE that is needed to enable ALECs to
7		offer xDSL services in BellSouth's Florida territory?
8	A.	No. The "hybrid copper/fiber" terminology would not completely serve the
9		Commission's purpose. In addition to BellSouth's millions of fiber-fed DLC
10		loops, approximately 1.2 million of BellSouth's access lines in Florida pass
11		through DLCs that use copper feeders, and could be described as "hybrid
12		copper/copper" loops. For purposes of DSL services, these aggregated
13		copper feeders are no different from fiber feeders; the DSL traffic still must
14		be multiplexed at the remote terminal. The Commission should, therefore,
15		use a terminology that includes unbundled packet switching and that is not
16		dependent upon a particular type of infrastructure.
17	Q.	Why is unbundled packet switching a necessary component of an xDSL-
18		capable DLC loop?
19	A.	DSL transmissions must be converted into packetized data bits at the DLC.
20		Therefore, for a DLC loop to be xDSL-capable, packet switching must be
21		performed by a DSL line card or DSLAM at the remote terminal. To provide
22		xDSL service, ALECs must be able to purchase this functionality on an
23		unbundled basis as part of any loop that passes through a DLC.

1	Q.	Would any purpose be served by the creation of a new hybrid UNE loop
2		that did not include unbundled packet switching?

A. No. Consideration of a "new" hybrid UNE loop without unbundled packet
switching would serve no purpose, since BellSouth is already required by
federal rules to provide unbundled access to feeder and distribution subloops,
and the Commission is already establishing rates and terms for these subloop
elements in this docket.

Q. How has BellSouth defined "hybrid copper/fiber xDSL-capable loop" in its testimony and its cost study?

A.

BellSouth's proposal unbundles only one of the three necessary components of a hybrid copper/fiber xDSL-capable loops. Its proposal includes the distribution subloop in the manner that I have described in my testimony above. However, BellSouth would require ALECs to purchase their own dedicated network feeder and packet switching facilities, rather than offering unbundled packet switching and feeder transport as part of a single wholesale "loop." Because BellSouth would require ALECs to purchase an entire 16-port DSLAM, rather than a port on a common DSLAM, the ALEC is forced to purchase capacity sufficient for 16 customers, rather than one at a time. Similarly, BellSouth would require an ALEC to purchase the full capacity of a DS1 feeder, which can also support approximately 16 customers. BellSouth's offer is the opposite of unbundling, as it would force ALECs to purchase capacity for approximately 16 customers at a time, even if an ALEC wants to serve only a single customer in a given remote terminal serving area.

Q. C	an BellSouth'	s proposed	offering l	be properl	y described	d as a "loop?"
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- 2 A. No. A loop is a transmission path between the central office and the loop demarcation point at the customer premises, and includes all features, 3 functions, and capabilities of the transmission facilities. BellSouth's 4 proposal, by contrast, would require an ALEC to purchase entire network 5 6 facilities that are designed to serve numerous end-users, rather than the option of purchasing a single line. When FDN purchases voice grade UNE 7 loops, it buys only the transmission path between its customer and the central 8 office, at a rate based upon the long-run incremental cost to BellSouth of 9 providing the single line. Similarly, to provide DSL services to individual 10 customers, FDN seeks to purchase xDSL-capable loops; BellSouth would, 11 12 instead, make it purchase a network.
- Q. Can BellSouth's proposed offering be properly described as offering unbundled packet switching?
 - A. No. Unbundled packet switching should mean that an ALEC could purchase the switching that it needs, not that the ILEC would offer to sell the ALEC its own switch. For example, when BellSouth provides unbundled switching for voice services, either as a stand-alone UNE or as part of the UNE Platform, it cannot simply offer to sell to each ALEC its own dedicated Class 5 switch; instead, the switching is sold based on incremental usage of BellSouth's switching facilities.

1	Q.	Would it be consistent with TELRIC for BellSouth to require ALECs to
2		purchase DSLAM and fiber infrastructure in bulk, rather than on a line-
3		at-a-time basis?
4	A.	No. As I understand it, TELRIC is based upon the incremental cost of
5		providing the additional service. BellSouth's proposal would exceed
6		TELRIC standards by forcing ALECs to purchase greater capacity than is
7		needed to provision service to its customers, thereby precluding ALECs of
8		the benefit of the economies of scale of the BellSouth network. Through its
9		unnecessary requirement that ALECs purchase their own DSLAMs and DS1
1.0		feeders even to serve a single customer, BellSouth's proposal would deny
11		ALECs the ability to share in BellSouth's economies of scale and would
12		thereby ensure that ALECs would have a significantly higher average unit
13		cost for a particular facility than would BellSouth, which has a significantly
14		larger output and customer base over which to spread its fixed cost.
15		Economies of scale lower the incumbent's per-customer costs of providing
16		service. ALECs must have access to the same technologies and economies of
17		scale and scope that are available to ILECs. To compete effectively with the

ILEC for the same customers, ALECs must be able to attain similar

and forcing them to purchase excess capacity, BellSouth's proposal

controverts basic TELRIC principles.

economies of scale. By denying ALECs the benefits of economies of scale

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1	Q.	Where it has deployed DLCs, does BellSouth require ALECs purchasing
2		voice-grade loops to purchase their own dedicated DLC line cards and
3		DS1 feeders?
4	Å.	No. Regardless of whether BellSouth's voice grade loops pass through DLCs
5		or not, it sells an end-to-end loop at the single standard UNE loop rate
6		calculated by the Commission. These rates represent the average long-run
7		incremental cost of providing individual voice-grade loops.
8	Q.	Is BellSouth's proposed rate structure for hybrid loops fair, just and
9		reasonable?
10	A.	No. If the Commission required BellSouth to offer "hybrid copper-fiber
11		xDSL-capable loops," but only in the manner and at the rates proposed by
12		BellSouth, FDN would remain completely unable to offer xDSL service
13		where BellSouth has deployed DLCs. First, the rates proposed by BellSouth
14		are clearly and completely non-viable. Second, even if the rates were
15		reduced dramatically, FDN would remain impaired because BellSouth's
16		proposed hybrid service would, at best, be available only after substantial
17		delays and/or special construction charges or, at worst, not at all.
18		In my Arbitration Testimony, I demonstrated that it is impossible for
19		FDN to incur the costs of placing its own dedicated DSLAMs and DS1
20		feeders in every one of BellSouth's 12,000 RT serving areas where it hopes
21		to provide service. Further, as FDN proved in the arbitration (through late-
22		filed exhibit 13), even if FDN collocated an 8-port DSLAM, the cash flow on
23		such a project would be negative before depreciation and return on

investment. This is why FDN has advocated unbundled access to
BellSouth's facilities. BellSouth has proposed adoption of the very cost
structure that I demonstrated could not be viable, in which every ALEC
would be required to place redundant dedicated facilities at every
neighborhood remote terminal. The rates proposed by BellSouth in this
proceeding are so clearly and completely non-viable for competitors that they
illustrate why BellSouth's proposal is economically unrealistic, and that
ALECs will remain impaired unless they are able to obtain unbundled access
to a UNE platform that includes packet switching and the feeder and
distribution subloops.

Q. Please explain your assessment that BellSouth's proposed rates are "clearly and completely non-viable."

A.

BellSouth's proposed rates are far too high to enable FDN to use the hybrid loop offering to profitably provide xDSL service to Florida consumers. BellSouth's proposed rates are even significantly higher per customer than BellSouth's *retail* rate for DSL-based high-speed Internet services — in some cases, by hundreds of dollars per month per customer. FDN would obviously be unable to offer xDSL services if it had to pay BellSouth more for just one of the many underlying components of this service than the total amount it could charge for its own retail service in the competitive market. In many cases, FDN would be paying to BellSouth an average of \$100-300 per line or more and, in some cases, even in excess of \$1240 for a line, while BellSouth is offering its own retail service for less than \$50.

Ο.	Please describe	BellSouth's reta	ail charges for	r its xDSL	-based services.

- A. Through its ISP, BellSouth sells its DSL-based FastAccess Internet Service to residential customers for \$49.95, or for \$45 if purchased bundled with certain other BellSouth services. These prices include Internet access and content service, email accounts, 10MB for personalized web pages, a newsgroup account and other typical features offered by ISPs. In addition, BellSouth's rates should reasonably be expected to include its recovery of the costs of providing retail service, such as advertising, customer service, and billing.
 Q. What portion of BellSouth's \$45-50 retail charge for DSL-based services is attributable to its wholesale costs of providing DSL transport and packet switching through DLC loops?
 A. Of the \$45-50 retail charge, approximately \$21 could be attributed to Internet and enhanced services, as BellSouth sells these separately for \$20.95 per
 - and enhanced services, as BellSouth sells these separately for \$20.95 per month. Another couple of dollars per month are attributable to the costs of providing transport from the central office to an Internet connection point.

 Using the Commission's resale discount rates as a proxy, approximately 16-22% of the remaining costs are attributable to retail costs such as advertising, customer service and billing. Therefore, the portion of its \$45-50 retail charge attributable to the DLC loop and DSLAM packet switching should be in the approximate range of \$16-22. Further, BellSouth's rates for the DLC loop with packet switching should be measurably less than \$33 per month, which is the rate in BellSouth's FCC tariff for DSL transport sold to ISPs to provide service to BellSouth's voice customers ("wholesale ISP rate"). This

wholesale ISP service is more expensive to provide than DLC loops alone
because it includes connectivity from the central office to a single connection
point in each LATA. Therefore, the Commission should view with great
skepticism any BellSouth rate for DLC loops that exceeds \$25.

A.

How did you determine that the rates offered in BellSouth's proposed cost study exceed BellSouth's retail and wholesale ISP rates for xDSL loops?

Using the rates proposed by BellSouth, I calculated the monthly recurring charges that would be assessed to FDN in Zones 1 and 3 at each remote terminal at which it ordered hybrid loops. The BellSouth proposal includes three groups of charges. The first assesses monthly recurring charges for a 16-port DSLAM, which FDN would incur upon initiating service to its first customer in each RT serving area and again every 16 customers thereafter. The second charge is for each dedicated DS1 provided to FDN, which I have estimated to be sufficient for up to 16 DSL lines. The third type of charge, the per line activation recurring charge, appears to represent the charge for the distribution subloop, and is applied based upon the number of active customers turned up by FDN. To calculate the real world meaning of these proposed charges to FDN, I added together the total charges that would apply based upon a range of possible customer combinations, and then determined the average charge per customer that would apply.

Q. What did you determine from your calculations?

- 1 A. In short, providing viable service using BellSouth's proposed rates is 2 economically impossible, even before considering FDN's own costs of ISP 3 services and retail support. My calculations demonstrate that BellSouth's 4 proposed charges would, in every circumstance, exceed not only BellSouth's 5 wholesale ISP rate, but also its residential retail rate for xDSL-based services. 6 Even in Zone 1, the least expensive zone, BellSouth's charges for the provision of service to a single customer would be almost \$700 per month. 7 8 On top of this \$700 charge, FDN would incur the costs of providing Internet 9 services, transport from the central office to the Internet, and the costs of providing retail service. While the cost per customer would decrease 10 11 somewhat as FDN obtained more customers to fill up the 16 ports on the 12 DSLAM that BellSouth had dedicated to FDN, even if an ALEC happened to need exactly 16 lines in every remote-terminal serving area where it had 13 14 customers wishing to purchase DSL, BellSouth's per customer charges would still be \$52.68 in Zone 1 up to \$109.44 in Zone 3. Moreover, if the ALEC 15 obtained a 17th customer, its per customer costs would increase dramatically 16 17 again because it would need to purchase an additional DSLAM and DS1 18 feeder. Therefore, no matter what number of customers FDN had, and no 19 matter how efficiently FDN could provide service, it would lose money under 20 BellSouth's proposed rates. Please state the remainder of your calculations. Q.
- 21
- 22 I calculated the following average charges per customer using BellSouth's A. 23 proposed rates:

3 Figure 1: Zone 1 Average Monthly Recurring Charges Per

Subscriber Under BellSouth's Proposal

Number of Customers in ZONE 1 RT Serving	DSLAM Monthly Charges	DS1 Monthly Charges	Distribution Subloop Monthly Charges	Total Monthly Recurring Charges	Average Monthly Cost Per Subscriber
Area	\$ 524.37	\$ 149.48	\$ 10.56	\$ 684.41	\$ 684.41
2	\$ 524.37	\$ 149.48	\$ 21.12	\$ 694.97	\$ 347.49
4	\$ 524.37	\$ 149.48	\$ 42.24	\$ 716.09	\$ 179.02
8	\$ 524.37	\$ 149.48	\$ 84.48	\$ 758.33	\$ 94.79
12	\$ 524.37	\$ 149.48	\$ 127.72	\$ 800.57	\$ 66.71
16	\$ 524.37	\$ 149.48	\$ 168.96	\$ 842.81	\$ 52.68
17	\$ 1048.74	\$ 298.96	\$ 179.52	\$ 1527.22	\$ 89.84
32	\$ 1048.74	\$ 298.96	\$ 337.92	\$ 1685.62	\$ 52.68

Figure 2: Zone 3 Average Monthly Recurring Charges Per

9 <u>Subscriber Under BellSouth's Proposal</u>

Number of Customers in ZONE 3 RT Serving Area	DSLAM Monthly Charges	DS1 Monthly Charges	Distribution Subloop Monthly Charges	Total Monthly Recurring Charges	Average Monthly Cost Per Subscriber
1	\$ 794.60	\$ 419.71	\$ 33.55	\$ 1247.86	\$ 1247.86
2	\$ 794.60	\$ 419.71	\$ 67.10	\$ 1281.41	\$ 640.71
4	\$ 794.60	\$ 419.71	\$ 134.20	\$ 1348.51	\$ 337.13
8	\$ 794.60	\$ 419.71	\$ 268.40	\$ 1482.71	\$ 185.34
12	\$ 794.60	\$ 419.71	\$ 402.60	\$ 1616.91	\$ 134.74
16	\$ 794.60	\$ 419.71	\$ 536.80	\$ 1751.11	\$ 109.44
17	\$ 1589.20	\$ 839.42	\$ 570.35	\$ 2998.97	\$ 176.41
32	\$ 1589.20	\$ 839.42	\$ 1073.60	\$ 3502.22	\$ 109.44

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2	Q.	If the rates for UNEs are based upon TELRIC, why are you comparing
3		BellSouth's proposed rates with its retail rates?
4	A.	My comparison between BellSouth's retail rates and its proposed hybrid
5		loop/network rates demonstrates several key points. First, it illustrates
6		clearly that BellSouth's proposed scheme of separate DSLAMs and feeders
7		for each ALEC at each of BellSouth's 12,000 remote terminals would not be
8		a cost effective or viable means of ensuring competition for xDSL services.
9		Second, it demonstrates that CLECs would remain impaired if BellSouth's
10		proposed rate structure were adopted. Therefore, a detailed TELRIC analysis
11		of BellSouth's current hybrid loop study would not appear to be warranted;
12		instead, the Commission should reject the study and require BellSouth to file

16 Q. If, hypothetically, ALECs collocated their own DSLAMs at BellSouth's
17 remote terminals and secured their own dedicated transport to the
18 central office, either through BellSouth's hybrid loop offering or on their
19 own, how many xDSL customers could they realistically hope to
20 subscribe?

a new cost study that offers xDSL loops, including unbundled packet

switching and transport between the customer and the central office, on a per

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loop basis.

A. While the results would vary by ALEC and market, an ALEC could not reasonably expect (in its early years of operations) to obtain a "take rate" of more than a small, single-digit percentage of the total possible market for

DSL service. Most of BellSouth's 12,000 remote terminals serve a small number of customers, some as few as a hundred lines. Therefore, as demonstrated in my calculations above, the rates proposed by BellSouth would be so prohibitively expensive as to never make economic sense given the few customers that any given ALEC might serve from an individual remote location.

Q. Would the use of shared DSL facilities by each carrier be more efficient than the use of separate, dedicated facilities?

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A.

Yes. The aggregation of all ILEC and ALEC traffic through shared DSLAMs would be the best way to ensure efficiency not only for ALECs, but also for BellSouth. If each carrier used its own facilities, there would be a much less efficient allocation of DSL ports. For example, if BellSouth had seven DSL customers at an RT, and three ALECs had four, two, and two customers, respectively, it would be much more efficient for the four carriers together to use 15 ports on one 16-port DSLAM than to use less than 25% of the total capacity of four separate DSLAMs. The higher utilization rate resulting from shared use will enable all carriers to reduce their per customer costs and thereby lower their retail prices. Even more significantly, pooling the DSL needs of all carriers could generate sufficient demand to enable the use of higher-capacity facilities, such as 96-port DSLAMs or DS3 feeders, which are more efficient and cost-effective if utilized sufficiently. These higher-capacity facilities are more efficient and would yield lower per subscriber costs. Shared facilities would reduce costs for both ALECs and

1	BellSouth, and would increase the deployment of broadband to Florida
2	consumers and businesses.

Α.

- Q. Could the establishment of an unbundled xDSL loop in the manner that
 you have proposed inhibit BellSouth's ability to offer broadband services
 in Florida?
 - No. While diversity of facilities in some cases promotes innovation and diverse service offerings, the space and infrastructure resources at most remote terminals is insufficient to support it. Aggregation of ALEC and BellSouth traffic onto the same DSLAMs and feeders will lead to the most efficient use of these limited resources, thereby reducing costs to consumers and making it more likely that carriers will be able to justify having DSL capability in a greater number of areas. In addition, the development of competitive service offerings will lead to lower prices and a higher overall penetration rate for DSL subscription. Falling costs and prices should lead to an increase in subscribership that would in some remote terminal areas justify the installation of higher capacity facilities, such as 96-port DSLAMs and DS3 feeders, the benefits of which I have discussed above. Therefore, the availability of unbundled xDSL loops with packet switching will encourage, not stifle, broadband deployment in Florida.
- Q. Are there any other reasons that the use of shared DSL facilities at remote terminals would promote DSL competition?
- Yes. If each carrier has separate DSL facilities at the remote terminal,
 consumers would not be able to enjoy the benefits of line sharing (voice and

ADSL services from separate carriers on the same line) unless all voice and data CLECs placed facilities at the remote terminal and established crossconnections to BellSouth and with each other. The installation of crossconnection facilities will be difficult in the inaccessible and cramped conditions of most remote terminals, and will further drain limited remote terminal space and resources. The rates and terms for the provisioning of these cross-connect facilities could be expensive and cumbersome. In a separate facilities architecture, the distribution pair from the customer carrying both voice and data traffic would terminate at the data carrier's DSLAM, which would only be connected to that carrier's dedicated feeder facilities. Cross-connects would, therefore, need to be established to transmit the voice traffic to the voice carrier's facilities. However, carriers not offering DSL would likely not have facilities collocated at the remote terminal to receive voice traffic in this manner. Their additional demand for remote terminal space and infrastructure will only further exacerbate the resource scarcity I have described and, in many cases, it will not be possible to accommodate. Therefore, Florida consumers could often be denied the ability to select different carriers to provide voice and data services on the same telephone line. Would a shared facilities model make it easier for a customer to select

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Q. Would a shared facilities model make it easier for a customer to select different carriers to provide voice and data services on the same telephone line?

Yes. Under a shared facilities model, the common remote terminal DSLAM would be connected to the common feeder facilities bound for the central office. Therefore, the voice traffic could be routed over this common feeder and then transmitted to the central office, where it could be received by the voice carrier in the same manner that it receives traffic from other BellSouth UNE loops. Carriers providing only voice services would not be required to locate facilities at the remote terminal, and additional cross-connect facilities at the remote terminal would not be needed.

Q. Would a shared facilities model promote competition in other ways?

A.

A.

Yes. As another example, in a shared facilities architecture, it would be much easier to permit customers to switch DSL providers with minimal disruption and cost. First, if all carriers were using the same DSLAM, it would be far less likely that the customer would be required to make significant changes to its modems and software. Second, the technical work to complete a carrier change request could be completed by a simple conversion at the central office. By contrast, under BellSouth's proposed plan, the customer's distribution pair would be wired to a particular carrier's facilities at the remote terminal, and the conversion would need to be performed there. Cutovers performed at one of BellSouth's approximately 200 central offices would require only a few minutes of work. However, if cutovers must be performed at BellSouth's remote terminals, it is more likely that the conversion could be delayed due to the difficulty in traveling to and obtaining access to the correct facility. It is not even clear that BellSouth

would be willing to perform such cutovers, or whether it would simply
require the customer to cancel their existing service and then order a new
connection. The more difficult it is for consumers to take advantage of
competitive choices, the less likely it is that the benefits of competition will
develop.
Mr. Kephart of BellSouth testifies that the DSLAM portion of the DLC
loop offering is exempt from unbundling requirements under the four-
part test established in the UNE Remand Order. Do you agree?
No. As I demonstrated in my Arbitration Testimony, the Florida
Commission can and should order BellSouth to offer unbundled xDSL loops
with unbundled packet switching because, without such relief, ALECs'
ability to offer xDSL services in Florida would be impaired. A CLEC is
impaired, among other reasons, when no alternative exists that would offer a
realistic opportunity to provide a competitive service. In my Arbitration
Testimony, I demonstrated that ubiquitous collocation of DSLAMs at remote
terminals is technically and economically infeasible for FDN, and that no
viable alternatives from BellSouth, self-provisioning or third parties are
available that would enable FDN to offer xDSL services where BellSouth has
deployed DLCs. As evidence of this reality, no ALEC had collocated, or
even requested to collocate, at a BellSouth remote terminal in the entire State
of Florida. My Arbitration Testimony further illustrates that FDN's inability

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telecommunications services, as consumers increasingly are demanding

to offer xDSL services also impairs its ability to offer voice

1	bundled telecommunications services that meet all of their service
2	requirements.

A.

- Q. In your Arbitration Testimony, you asserted that ubiquitous ALEC collocation of DSLAMs at remote terminal would be technically and economically infeasible. BellSouth's proposal in this docket, if adopted, would offer CLECs the opportunity to purchase the use of a collocated DSLAM at its remote terminals. Does BellSouth's hybrid loop proposal change your conclusion in your Arbitration Testimony that ALECs would be impaired without access to unbundled xDSL loops with packet switching?
 - No. First, as I demonstrated above, the unreasonably high rates proposed by BellSouth would completely preclude their use by a competitor. Second, even if the Commission lowered the rates, in many or even most cases, BellSouth's proposed service would often be available, if at all, only with substantial complications and/or delays that an ALEC could not afford to incur. If BellSouth rejected an order for the proposed hybrid loop service on the basis that facilities were unavailable, the ALEC would remain impaired in its ability to offer xDSL services for the reasons set forth in my Arbitration Testimony. Therefore, BellSouth's proposal is an illusion that would do nothing to relieve the impairment faced by ALECs in the Florida DSL market.
- Q. Why do you believe that the hybrid loop proposed by BellSouth would often be unavailable?

1 A. The vast majority of BellSouth's 12,000 remote terminals are likely too small 2 and lack sufficient power resources and connectivity to support additional DSL facilities for each and every ALEC wishing to provide xDSL services. 3 Additional DSLAMs could require expansions of remote terminal space 4 capacity, power generation, and climate control facilities, that may be 5 6 impossible or prohibitively expensive. In addition, BellSouth's proposal would require each ALEC to obtain a separate, dedicated transport facility 7 back to the central office, which could prematurely exhaust the limited 8 9 supply of feeder facilities that are available to ALECs. My Arbitration Testimony explains that dark fiber will often not be available to ALECs at 10 11 remote terminals, and that it is not economically feasible for an ALEC to 12 obtain rights-of-way and construct new fiber facilities between BellSouth's remote terminals and central offices. Furthermore, many of BellSouth's 13 14 12,000 remote terminals are unobtrusive cabinet boxes that are located, 15 among other locations, in residential neighborhoods. The public interest would not be served by unnecessary and inefficient expansions of these 16 facilities. 17 18 Why would ALECs face additional delays in procuring xDSL-capable Q. 19 loops if BellSouth's proposal is adopted? Under BellSouth's proposed requirement that each ALEC purchase its own 20 A. 21 DSLAM and DS1 feeder at every remote terminal, ALECs would face delays of months or longer in attempting to initiate service to its first customer in an 22

RT serving area while new DSLAM and DS1 facilities were installed and

connected and any infrastructure upgrades needed to support these facilities were completed. By contrast, if unbundled xDSL loops were offered on a line-at-a-time basis, wherever BellSouth has DSL facilities, ALECs could obtain unbundled xDSL loops to provide service to a customer with the same speed that BellSouth could provide service to that customer. Without the ability to offer service at the same speed as BellSouth, it would be difficult for ALECs to win the DSL business of customers located in RT serving areas where they had not already established their own DSL facilities.

A.

Q. Should BellSouth be required to offer xDSL loops with unbundled packet switching on a stand-alone basis and in combination with voice-grade UNE loops?

Yes. As I demonstrated in my Arbitration Testimony, to compete, ALECs must be able to utilize the full features and capabilities of the loop, including the ability to provide both circuit-switched voice service and ADSL data service on the same distribution pair, just as BellSouth provides for its own customers. Without this ability, ALECs will unnecessarily be forced to incur greater costs in order to provide voice and data service over separate loops and may, in some cases, be precluded from providing both services if an additional loop is not available. This combination offering is provisioned by employing line sharing on the distribution subloop, and the voice and data traffic are separated by the DSLAM or DSL line card at the DLC and sent to the central office on separate feeder transmissions. BellSouth provisions its

1	own service in this manner. The Commission should require BellSouth to
2	offer the same capability to Florida ALECs.

- Q. Based upon your testimony, how should the Commission define the new
 UNE needed to enable ALECs to offer xDSL services in Florida?
- The new UNE should be defined as an xDSL loop, from the customer NID to
 the central office, with unbundled packet switching. The Commission should
 require BellSouth to offer unbundled packet switching as part of any loop
 that, to be xDSL-capable, would require packet switching on the customer
 side of the central office. The Commission should not limit its terminology
 to hybrid copper/fiber loops, since the UNE is also needed where BellSouth
 has deployed copper-fed DLCs.
- Q. Would it be technically feasible for BellSouth to offer xDSL loops with unbundled packet switching in the manner that you have proposed?
- 14 A. Yes. BellSouth already provides such loops to itself for its own use. Mr.

 15 Kephart admits in his testimony that the hybrid loop offering outlined in his

 16 testimony is technically feasible. The only significant difference from a

 17 technical perspective between his proposal and FDN's is that, in FDN's

 18 proposal, the DSL transmissions are aggregated on shared DSL multiplexing

 19 facilities and feeder transport to the central office. This arrangement is also

 20 technically feasible for BellSouth to provide.
- Q. You have testified that BellSouth's requirement that ALECs purchase
 dedicated DSLAMs and DS1 feeders violates TELRIC principles and
 that the Commission should reject, rather than adjust, BellSouth's cost

1		study. Putting that contention aside, did Bel	South calculate the		
2		individual rate elements for hybrid loops con	sistent with TELRIC?		
3	A.	No. Even a preliminary review of BellSouth's	hybrid copper/fiber loop cost		
4		study demonstrates that the proposed rates are n	not TELRIC-compliant. For		
5		example, the proposed rates for the DS1 compo	ment of the hybrid loop		
6		(element A.20.1 of the cost study) is much high	er than the rate that BellSouth		
7		proposes for an equivalent DS1 subloop for oth	er services. The disparity		
8		between these rates appears to be based upon BellSouth's use of different			
9		network design models in developing its cost st	audies for these two elements		
10		which, in reality, are the same. BellSouth witn	ess Caldwell's testimony		
11		indicates that the standard DS1 cost study evaluated all DS1 loops, while the			
12		hybrid loop study only evaluated DS1s between remote terminals and central			
13		offices. The resulting charges would be much	nigher for the Hybrid		
14		Copper/Fiber DS1, as set forth in Figure 3 belo	w:		
15		Figure 3: Comparison of Proposed DS1	Rates		
16		A.9.2 Unbundled sub-loop DS 1 feeder A	.20.1 Hybrid Copper/Fiber		
17		<u>DS1</u>			
18		Zone 1 \$46.27	\$149.48		
19		Zone 2 \$62.45	\$173.40		
20		Zone 3 \$120.65	\$419.71		
21	Q.	How do BellSouth's proposed DS1 rates viol	ate TELRIC principles?		
22	A.	BellSouth's study fails to utilize a single unifie	d network design in the		
23		determination of its unbundled DS1 subloop ra	tes. FCC Rule 51.505(b)(1)		

requires that the total element long-run incremental cost of a UNE should be measured based upon the "lowest cost network configuration." This

Commission has also recognized that a single unified network design is most appropriate. The use of different engineering assumptions violates TELRIC principles because BellSouth has not used the lowest cost network assumption across the board. Use of a single unified network assumption that takes into account demand for all types of loops, including stand-alone loops, loop/port combinations, and xDSL-capable loops, would better reflect the economies of scale and scope in the ILEC network.

Α.

Q. Are there other examples of non-TELRIC-compliant rates in BellSouth'sproposal?

Yes. BellSouth's cost study includes a charge for an unnecessary and inefficient network design in the central office. Even though BellSouth would force each ALEC to pay the cost of its own dedicated DS1 from each remote terminal, BellSouth would not permit the ALEC to terminate the DS1 at its own collocation cage. Instead, BellSouth proposes that each DS1 terminate into a DSL hub bay, and then BellSouth would charge an additional "administrative DS1" charge for transport from this bay to the ALEC cage. For this short and unnecessary component, BellSouth would impose the same excessive charge that it imposes for the DS1 between the remote terminal and the central office. Aside from the fact that this proposed rate for a DS1 is excessive, as I discussed above, this extraneous element is inefficient and counterproductive and should be eliminated.

1	Q.	Based upon your testimony in this docket, what do you believe would be
2		the appropriate rate structure for BellSouth's provision of xDSL loops
3		with unbundled packet switching?
4	A.	The rate structure for xDSL UNE loops should include two basic product
5		types: data-only and voice-and-data. Each should be offered on a line-at-a-
6		time basis, with a single loop rate for each zone. The rates should represent
7		the sum of adding unbundled packet switching to different types of already
8		existing UNE loops. The only new calculation necessary to compose the
9		TELRIC-compliant rates for the two types of xDSL loops is a TELRIC-based
10		charge for packet switching on a per line basis. For data-only xDSL loops,
11		this surcharge would be added to the applicable rate for a line shared loop.
12		For combined voice and data xDSL loops, the packet switching surcharge
13		would be added to the applicable rate for a UNE loop.
14	Q.	How would BellSouth be compensated for shared use of DSLAM
15		facilities?
16	A.	BellSouth could be compensated in the same way it is currently compensated
17		for shared use of its other facilities. Costs could be developed per DSLAM
18		or line card port, and BellSouth could seek approval to recover the costs of
19		unused capacity through use of an appropriate fill factor. This pricing will
20		more accurately reflect BellSouth's incremental cost of providing the UNE to
21		ALECs.

What is your recommendation to the Commission?

Q.

- 1 A. The Commission should reject BellSouth's hybrid loop cost study and require
- BellSouth to file a new study that offers xDSL loops, with and without voice
- 3 capability, including unbundled packet switching and transport between the
- 4 customer and the central office, on a per loop basis.
- 5 Q. Does this conclude your rebuttal testimony?
- 6 A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Investigation into Pricing of Unbundled Network Elements)	Docket No. 990649A
	_)	

EXHIBIT MPG-1

FILED WITH THE REBUTTAL TESTIMONY OF MICHAEL P. GALLAGHER

FLORIDA DIGITAL NETWORK, INC.



June 7, 2001

Ms. Blanca Bayó, Director Division of Records & Reporting Florida Public Service Commission 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850

via Overnight Delivery

Re: Docket No. 010098-TP — Petition by Florida Digital Network, Inc. for arbitration of certain terms and conditions of proposed interconnection and resale agreement with BellSouth Telecommunications, Inc. under the Telecommunications Act of 1996.

Dear Ms. Bayó,

Please find enclosed for filing in the captioned docket an original and seven (7) copies of the Direct Testimony and Exhibits of Mr. Michael P. Gallagher to be filed in the captioned proceeding and an accompanying Certificate of Service. Also enclosed is a copy of the text of the testimony on diskette.

If you have any questions regarding this Notice or the Petition, please call me at 407-835-0460.

Sincerely,

Matthew Feil

Florida Digital Network

General Counsel

C: James Meza, III (BellSouth) (by e-mail, Overnight Delivery)
Felicia Banks (FPSC) (by e-mail, Overnight Delivery)
Mike Sloan (Swidler) (by e-mail, Overnight Delivery)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition of Florida Digital Network, }
Inc., for Arbitration of Certain Terms and }
Conditions of Proposed Interconnection and }
Resale Agreement with BellSouth Telecom- }
munications, Inc. Under the Telecom- }
munications Act of 1996 }

Docket No.010098-TP

CERTIFICATE OF SERVICE

I hereby certify that a true and complete copy of the prefiled direct testimony and exhibits of Michael P. Gallagher filed in the captioned docket was served on the following by overnight delivery this 7th day of May, 2001.

Mr. James Meza, III C/o Ms. Nancy H. Sims, Dir., Reg. Relations 150 South Monroe Street, Suite 400 Tallahassee, FL 32301-1556

Ms. Felicia Banks Florida Public Service Comm'n 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850

Matthew Feil

Florida Digital Network 390 North Orange Avenue

Suite 2000

Orlando, FL 32801

(407) 835-0460

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition of Florida Digital Network, }
Inc., for Arbitration of Certain Terms and }
Conditions of Proposed Interconnection and }
Resale Agreement with BellSouth Telecommunications, Inc. Under the Telecommunications Act of 1996 }

Docket No.010098-TP

DIRECT TESTIMONY AND EXHIBITS OF MICHAEL P. GALLAGHER

FILED ON BEHALF OF
FLORIDA DIGITAL NETWORK, INC.

June 8, 2001

1	Q. Please state your name and address.
2	A. My name is Michael P. Gallagher. My business address is 390 North
3	Orange Avenue, Suite 390, Orlando, Florida, 32801.
4	Q. Who do you work for?
5	A. I am Chief Executive Officer of Florida Digital Network, Inc. ("FDN").
6	Q. What are your responsibilities as CEO of FDN?
7	A. As CEO of FDN, I am ultimately responsible to the shareholders for all
8	aspects of FDN's operations and performance. On a management level,
9	FDN's President & Chief Operating Officer, Chief Financial Officer and
10	General Counsel report directly to me; FDN's Engineering & Operations,
11	Customer Service, and Sales Vice Presidents report to the President & COO,
12	who is also in charge of FDN's Marketing and IS functions. I am involved in
13	the day-to-day business dealings of the company and the decision-making on
14	everything from marketing and sales strategies, product development,
15	network architecture and deployment, financing, human resources, customer
16	care, regulatory changes, etc.
17	Q. Please describe your education and your work experience in the
18	telecommunications sector.
19	A. I received a B.S. Degree in Mathematics with a minor in Physics from
20	Rollins College.
21	Prior to co-founding FDN in 1998, I served as Regional Vice
22	President for Brooks Fiber Communications where I had overall
23	responsibility for operations, engineering, finance and sales in the State of

1	Texas. Brooks Fiber Communications merged into WorldCom on January
2	31, 1998. Prior to holding the VP position at Brooks, I was president of
3	Metro Access Networks (MAN), a second-generation CLEC in Texas
4	founded in 1993. At MAN, I developed all business strategies, designed
5	network architecture, secured contracts with the company's original customer
6	base, and had overall responsibility for operations and performance. MAN
7	merged into Brooks Fiber in March 1997. Prior to MAN, I worked for
8	Intermedia Communications and Williams Telecommunications Group
9	(WilTel) as sales representative securing contracts with large commercial
10	customers.
11	Q. Have you previously testified in a regulatory proceeding before a
12	state utility commission, the FCC or a hearing officer?
13	A. No.
14	Q. What is the purpose of your testimony in this proceeding?
15	A. I will address the interconnection agreement issues FDN could not
16	resolve with BellSouth and which FDN raised in its Arbitration Petition.
17	Q. Please briefly describe FDN's operations.
18	A. FDN is a facilities-based Florida CLEC. FDN is also an IXC, a data
19	services provider (both dial-up and dedicated), and, through an affiliate, FDN
20	offers ISP and other Internet services. FDN was founded in 1998 with the
21	mission of offering packaged services (local, long distance and Internet) to

small- and medium-sized businesses. FDN launched operations in Orlando in April 1999 and expanded to Fort Lauderdale in May 1999 and to Jacksonville in June 1999. A second round of expansion in West Palm Beach, Miami and the Tampa Bay area was completed in the first quarter of 2000.

FDN owns and operates Class 5 Nortel DMS-500 central office switches in Orlando, Tampa, Jacksonville, and Ft. Lauderdale. FDN's switches are connected by fiber optic cable owned and operated by FDN to nearby incumbent local exchange carrier (or "ILEC") tandem switches. FDN leases collocation cages or has virtual collocation space in over 100 ILEC wire centers. Remote switching equipment is installed at these collocation sites and from these sites FDN accesses ILEC UNE loops. Connectivity from the collocation sites to the central ILEC tandem switch is via T-1 circuits leased from the ILEC. FDN relies upon its rights under the federal Telecommunications Act of 1996 (the "Act") to obtain "last mile" access to Florida consumers through the purchase of unbundled network elements (UNEs) from ILECs such as BellSouth.

FDN uses BellSouth's TAG gateway for electronic ordering. Using systems and software FDN developed on its own, FDN transmits virtually all of its local service requests ("LSRs") to Bell electronically with minimal manual intervention. The vast majority of FDN's LSRs to BellSouth are for 2 wire voice grade UNE loops. Based on information from BellSouth, FDN believes that FDN is by far the largest procurer of UNE voice-grade loops in Florida and that FDN has installed more UNE loops than all other CLECs in

- 1 Florida combined. Through relief sought in this proceeding, FDN intends to
- 2 expand its use of BellSouth UNEs for the provision of competitive local
- 3 voice and data services to both business and residential users in the State of
- 4 Florida.
- 5 <u>ISSUE 1</u>.

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I. INTRODUCTION

Q. What is the purpose of FDN's high-speed data proposal?

A. FDN seeks the ability to offer its customers a combination of circuitswitched voice services, such as local dial tone, and packet-switched highspeed data services, such as Digital Subscriber Line (DSL) services. FDN is able to provide DSL to some end-users in Florida by collocating its own DSL multiplexers (DSLAMs) in BellSouth's central offices. However, FDN is precluded from providing high-speed data service where BellSouth has deployed Digital Loop Carrier (DLC) facilities. Except in the territory served by SBC Communications, Inc., CLECs are generally precluded from offering DSL service where DLCs are deployed. The severity of this limitation on competition is felt nowhere more than Florida, as more than 60% of all BellSouth access lines in Florida pass through DLCs according to BellSouth. In FDN's experience in its initial Florida markets, FDN believes the percentage of DLCs approaches 70%. BellSouth does not offer any resale or UNE products that would enable CLECs to provide high-speed data service to consumers who are served by DLC loops where the CLEC is the voice provider. The purpose of my testimony is to offer the factual basis required

for the Florida Commission to order BellSouth to offer UNE and resale products, in accordance with applicable law, that will be essential for FDN to offer high-speed data services on an ubiquitous basis in Florida over the same customer loops that it uses to provide its voice services. This issue is of paramount importance for FDN to be able to launch a facilities-based competitive local voice option for residential subscribers. Florida is almost completely without facilities based local voice competition for residential subscribers at this time.

Q. What is DSL?

- A. DSL is a technology initially developed to enable high-speed data transmission over traditional copper loop facilities. DSL modems placed on each end of a copper loop transmit information at rates far exceeding those typically achieved by traditional "dial-up" modems, allowing consumers to utilize the growing number of bandwidth intensive applications and to maximize efficiencies and productivity. To provide a viable DSL transmission service, the loop between the customer and the DSLAM must typically be shorter than 18,000 feet, free of bridged tap, load coils and repeaters, and free from interference caused by nearby fiber-based telecommunications.
- Q. Is FDN able to offer high-speed data services in conjunction with its voice service on a ubiquitous basis in Florida?
- A. No. FDN is collocated in more than half of BellSouth's central offices in the state of Florida, and is able to offer voice services to 100% of

- 1 the consumers served by these offices. However, FDN is unable to provide
- 2 DSL service to approximately 70% of these end-users because of the
- 3 presence of BellSouth DLCs.

Q. What are DLCs?

- A. The DLC performs an analog to digital conversion that aggregates telecommunications from the individual customer subloops to a shared transmission facility bound for the central office. Deployment of DLCs and successor technologies will ultimately save billions of dollars annually in maintenance and switching costs. In the past, and still today throughout most of the country, the vast majority of last mile loops consist of "home run" copper facilities between the customer and the central office. However, in the past quarter-century, as Florida's population grew explosively, BellSouth deployed a tremendous number of DLCs at remote terminals (RTs) in its distribution network. Attached hereto as Exhibit __ (MPG-1) is a diagram comparing traditional copper network architecture with DLC deployment.
 - Q. Why do BellSouth's DLCs preclude FDN from offering DSL service?
 - A. DSL cannot be transmitted through a DLC unless it is first multiplexed for digital transmission to the central office. Therefore, the carrier must locate at the remote terminal a DSLAM, or, in the case of Next Generation Digital Loop Carriers ("NGDLCs"), DSL-capable line cards that perform DSLAM functionality. For reasons I will explain below, unlike BellSouth, FDN and other CLECs cannot collocate DSLAMs or line cards at

- remote terminals. Therefore, BellSouth today is the only carrier in Florida

 able to offer DSL service where its DLCs are deployed.
- Q. Why can CLECs provide high-speed data service over DLC loops in the territory served by SBC?
- A. SBC offers a wholesale UNE-priced broadband loop product that includes transmission from the customer to the remote terminal, DSLAM functionality at the RT, and transmission to the central office, where CLECs pick up the traffic from SBC's packet switch. Verizon is developing a similar product. As I will explain in more detail below, FDN seeks a similar UNE from BellSouth, tailored to the technical specifications of BellSouth's Florida network.
- Q. Can FDN sustain long-term viability if it is limited to providing

 DSL only on non-DLC loops?

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A. It would be very difficult as demand for DSL increases. In most Florida central offices, more so than in most of the rest of the nation, FDN will not be able to succeed in the voice or data market if it is limited to providing DSL service only to end-users who can be served from the central office. As I stated previously, more than 60% of BellSouth's Florida access lines pass through DLCs and cannot be served from the central office. Of the remaining 30-40% of the end-user base, many cannot receive central office based DSL due to excessive loop lengths, the presence of bridged taps, load coils or repeaters, or other factors. With such a high percentage of the DSL market closed to central-office-only strategies, CLECs will not be able to

compete. Furthermore, if BellSouth is the only carrier that can provide DSL to a substantial percentage of consumers, it can leverage its market power to suppress competition for voice services, as I have indicated above. Therefore, an exclusive central office strategy will not only fail in the DSL market, but it could also fail in the voice services market as well. My point is well illustrated by the failure of many exclusive central-office based CLEC strategies, even where the rate of DLCs is much lower than Florida. Of the three major national DSL CLECs, NorthPoint has already dissolved in bankruptcy and Covad and Rhythms are in serious financial peril and could be bankrupt during the course of this year. Why it is important for FDN to be able to offer both voice and Q. data services? A large and growing number of residential and business customers are A. seeking carriers that can satisfy all of their telecommunications needs, including voice and high-speed data services. These customers want to be able to obtain these services through a single point of contact and on a single bill. If FDN is unable to offer high-speed data services, it will not only lose opportunities in the data market, but it will also be unable to remain competitive in the voice local exchange and interexchange markets in Florida.

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Q.

urgent?

Is FDN's objective to provide high-speed data service in Florida

A. Absolutely. It is well established that early entry and early name recognition are crucial to success in markets for new technologies and new services. BeliSouth understands this as well, as it is aggressively deploying DSL in Florida today even as it denies competitors the resale and UNE DSL products that CLECs need to compete. With each day that passes, FDN falls further behind BellSouth in the high-speed data market, and the probability of losing its existing and prospective voice customers grows. In Florida alone, BellSouth by the end of April 2001 had 133,015 high-speed data subscribers in the State of Florida, 43,291 of which were added in the first quarter 2001. Florida customers represent nearly one-half of BellSouth's DSL lines regionwide, and approximately one-half of its first quarter growth. Therefore, FDN's efforts to obtain the resale and UNE products for a bundled DSL and voice offering are extremely urgent and are of utmost importance to FDN's short-term and long-term viability in the state.

- Q. Does FDN's inability to offer voice and high-speed data on the same telephone line impair its ability to offer local exchange voice services in Florida?
- A. Yes. First, as I mentioned, FDN's inability to offer high-speed data to most customers impairs its ability to sell voice services to customers looking for a bundled service offering from a single carrier. Second, FDN is impaired in its ability to sell local exchange voice services by BellSouth's unnecessary and anticompetitive practice of leveraging its control of the DSL market in Florida to injure competitors in the voice market. To illustrate, if a

prospective FDN customer today is obtaining both voice and data services from BellSouth, they are not able to migrate their local exchange voice service to FDN's facilities-based voice service without having BellSouth disconnect their data service, even though BellSouth easily has the capability to continue to provide data service on the line. Because FDN is unable in most cases to offer DSL service to the customer on the same telephone line, the customer is likely to lose interest in obtaining voice telephone services from FDN, even when FDN is able to offer superior pricing and service. BellSouth's ability to manipulate its market power to injure competitors will only increase as competitive DSL providers continue to disappear.

- Q. How does the lack of competitive DSL providers affect Florida consumers?
- A. In markets where only one or only a few providers are available, these providers have fewer incentives to provide quality service or competitive rates to their customers. As BellSouth has solidified its growing control over the DSL market in Florida, it recently raised its retail DSL prices in the state and discontinued some of its competitive promotions. If competitors are denied meaningful access to BellSouth's last mile connections to end-users, price increases could be expected to continue.
- Q. In this arbitration, is FDN requesting the same relief sought by MCI WorldCom in Docket No. 000649-TP that BellSouth be required to provide xDSL service to FDN customers?

A. No. FDN is not in this arbitration seeking to require BellSouth to provide retail xDSL or ISP services to consumers who are also FDN Instead, FDN proposes to purchase wholesale access to customers. BellSouth's unbundled network elements pursuant to Section 251 of the Act. BellSouth would not be required to have end-user relationships, such as billing or customer service, with FDN's customers. Nor would BellSouth be required to connect the customers from the central office to an ISP's point of presence, or to provide Internet service itself; instead, as with other UNEs, FDN would access the loop via its collocated facilities in BellSouth's central offices. Therefore, the decision in the MCI WorldCom arbitration in Docket No. 000649-TP regarding BellSouth's obligation to provide xDSL service is not relevant in this arbitration. II. BELLSOUTH SHOULD \mathbf{BE} REQUIRED TO OFFER UNBUNDLED BROADBAND LOOPS AS A UNE To enable FDN to provide bundled voice and high-speed data Q. service products where DLCs are deployed, does FDN require access to facilities that are different from the UNEs offered in other BellSouth Florida interconnection agreements? A. Yes. At the time that the current national list of UNEs was established in the FCC's UNE Remand Order in 1999, the FCC formalized as UNEs only the network elements needed for local exchange and DSL service in an ILEC network in which the predominant last mile connections are home

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run copper loops. BellSouth's existing network in Florida is very different from the FCC's conceived model, with more far more fiber and DLCs. Due to the differences between BellSouth's DLC-dominated Florida network and other ILECs' copper-based distribution systems, it is necessary to establish additional UNEs and/or apply the FCC's standard to unbundle packet switching in order to ensure that CLECs can provide ubiquitous xDSL service in Florida using UNEs.

Q. Can the Florida Commission establish new UNEs?

A. Yes. Section 251(d)(3) of the Act explicitly authorizes state commissions to establish additional unbundling obligations. When the FCC established the basic list of UNEs that must be unbundled by all ILECs, the FCC emphasized that "section 251(d)(3) grants state commissions the authority to impose additional obligations upon incumbent LECs beyond those imposed by the national list." The *Line Sharing Order*, which sought to promote unbundled CLEC access to DSL, further encouraged state commissions "to impose additional, pro-competitive requirements consistent with the national framework established in this order."

Q. What new UNEs are necessary to enable FDN to offer high-speed data services in BellSouth's territory in Florida?

A. Where BellSouth has deployed Digital Loop Carrier facilities, FDN requires access to unbundled DSL-capable transmission facilities between the

¹ Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order, 15 FCC Rcd. 3696, ¶ 154 (1999) ("UNE Remand Order").

² Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, Third Report and Order, 14 FCC Rcd. 20912, at ¶ 159 (1999) ("Line Sharing Order").

1 customer's Network Interface Device and the BellSouth distribution frame in its central offices, including all attached electronics that perform DSL 2 multiplexing and splitting functionalities. I will describe these facilities as 3 "broadband loops." FDN seeks the ability to obtain both whole loops for a 4 5 combined voice and data service and the high-frequency portion thereof for 6 data-only service. 7 Q. How does this facility differ from the DSL-capable loop that is classified as a UNE under the UNE Remand Order? 8 9 Under my description, broadband loops include the packet switching A. 10 and splitter functionalities that are performed by BellSouth's equipment located at a remote terminal. The traditional UNE loop does not include the 11 12 DSLAM. 13 Why would the network elements necessary to provide high-speed Q. 14 data service over DLC loops be different from the definition of a non-15 DLC loop? 16 As I stated above, FDN is not able to offer xDSL service over DLC A. 17 loops using only the existing UNEs. In the UNE Remand Order, the FCC determined that CLECs could place their own DSLAMs in ILEC central 18 19 offices on the same terms and conditions that the ILEC located its own 20 DSLAM, and that they were therefore not impaired by a lack of unbundled access to ILEC DSLAMs in the central office. As I will explain in more 21 22 detail below, CLECs are not able to self-provision or otherwise obtain 23 DSLAM functionality at ILEC remote terminals on an equivalent basis.

Even in rare cases where such provisioning may be technically feasible, the option is financially impossible for FDN and other CLECs. Therefore, as I will explain below, CLECs would be impaired if DSLAM functionality is not included as part of the broadband loop UNE.

- Q. Is there a regulatory precedent for requiring incumbents to provide a platform of UNEs that comprise DSL transmission over loops with fiber feeder at prices based on forward-looking, economic cost?
- A. Yes. In a proceeding relating to the SBC-Ameritech merger, the FCC required SBC to offer to CLECs a "Broadband Offering," which the FCC described as a "combination of network elements provided as a wholesale arrangement." The Broadband Offering must be offered, alone and in combination with a voice offering, at rates, terms, and conditions that are just, reasonable, and nondiscriminatory and priced in accordance with the TELRIC methodology applicable to unbundled network elements. SBC's Broadband Service, which is available in SBC's thirteen-state region today, is functionally equivalent to the broadband loop requested by FDN in this arbitration. Therefore, FDN is seeking from BellSouth what SBC already offers to CLECs in its thirteen-state region.
- Q. Have any regulators classified broadband loops as a UNE?

³ Ameritech Corp., Transferor and SBC Communications, Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules, CC Docket No. 98-141, ASD File No. 99-49, Second Memorandum Opinion and Order, FCC 00-336 (rel. September 8, 2000) ("Project Pronto Order"), at ¶ 30.

⁴ Project Pronto Order at ¶ 6 (footnote omitted).

1	A. Yes. The FCC described the offering as a combination of network
2	elements and required that it be priced according to the TELRIC cost
3	methodology used to price UNEs. ⁵ The Illinois Commerce Commission
4	recently created the broadband loop with packet switching functionality as a
5	new UNE. Numerous other state commissions are now considering the issue.
6	Although the issue is also pending in an FCC proceeding, the FCC has
7	indicated that it expects that issues related to access to DLC loops will be
8	addressed in state arbitration proceedings.
9	Q. Have any ILECs other than SBC made plans to offer a similar
10	combination of network elements to provide wholesale DSL capability?
11	A. Yes. Verizon has developed a draft proposal for a product that is
12	functionally equivalent of SBC's Broadband Offering and the broadband
13	UNE loop proposed by FDN in this case, called its Packet Access at Remote
14	Terminal Service (PARTS).
15	Q. Is CLEC access to DLC-served customers less urgent in BellSouth

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territory than in SBC and Verizon's regions?

⁵ The FCC did not formally classify the offering as a UNE because it has reserved that issue to a pending generic case that will be applicable to all ILECs. See Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket 98-147, CC Docket 96-98, Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Fifth Further Notice of Proposed Rulemaking in CC Docket 96-98, FCC 00-297, at ¶ 81-83, 103-12, 119-28 (rel. Aug. 10, 2000).

⁶ See Arbitration Decision on Rehearing, In the Matter of Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, and for an Expedited Arbitration Award on Certain Core Issues, et al., Illinois Commerce Commission, Docket Nos. 00-0312 and 00-0313 (Illinois Commerce Commission, Feb. 15, 2001) ("Illinois Pronto Arbitration Order"); see also In the Matter of Illinois Bell Company Proposed Implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Services, Illinois Commerce Commission, Docket No. 00-0393, Order (Ill. Commerce Commission Mar. 14, 2001.

A. Absolutely not. In fact, this issue is more urgent in Florida because of BellSouth's massive deployment of DLCs in the state. SBC offered its broadband service in conjunction with its rollout of DSL-capable DLC loops, and Verizon has stated that it has not yet provided DSL over DLC loops. By contrast, BellSouth has already provisioned a tremendous number of DSL lines over DLC loops in Florida. In the absence of a broadband loop UNE, a higher percentage of Florida end-users are deprived of competitive choice of DSL and voice providers than would be occurring in SBC and Verizon territory.

Q. What standard must the Florida Commission employ in deciding whether to create any new UNEs?

A. FCC Rule 51.317 prescribes the legal standard to be used by state commissions when creating new UNEs.⁷ When prospective UNEs implicate specified proprietary rights of the ILECs, a state must find that access to that element is "necessary." When no proprietary rights are implicated, the state need only find that CLECs would be "impaired" without access to the element. Under FCC rules, a network element is considered to be proprietary only if the ILEC demonstrates that it has invested resources to develop proprietary information or functionalities that are protected by patent, copyright or trade secret law.⁸ The discrete elements such as line sharing, packet switching, and fiber functionality that comprise the unbundled access that are sought here have been previously deemed non-proprietary by the

^{7 47} C.F.R. § 51.317.

⁸ See 47 C.F.R. § 51.317(a).

FCC.⁹ Therefore, in this arbitration, none of FDN's proposals would implicate BellSouth's proprietary rights. For these reasons, the Florida Commission should use the "impair" standard to determine whether any new UNEs should be created.

Q. How is the "impair" standard used by state commissions to create new UNEs?

When evaluating whether to unbundle a network element under the A. "impair" standard, federal regulations require unbundling if lack of access to the network element impairs a carrier's ability to provide the services it seeks to offer. "A requesting carrier's ability to provide service is 'impaired' if, taking into consideration the availability of alternative elements outside the ILEC's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element materially diminishes a requesting carrier's ability to provide the services it seeks to offer."10 The FCC rules establish that the "totality of circumstances" must be considered to determine whether an alternative to the ILEC's network is available in such a manner that a requesting carrier can realistically be expected to actually provide services using the alternative.11 When determining whether to require additional unbundling, FCC Rule 51.317(b) requires that the Commission consider the cost, timeliness, quality, ubiquity, and impact on network operations that may be associated with any

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⁹ See UNE Remand Order at ¶ 180 & 305; Line Sharing Order at ¶ 28.

^{10 47} C.F.R. § 51.317(b).

¹¹ UNE Remand Order at ¶ 62.

- alternatives to unbundling. In addition, other factors such as promotion of the rapid introduction of competition; facilities-based competition, investment, and innovation; or certainty to requesting carriers regarding the availability of the element may also be considered by the Commission.¹²
 - Q. If broadband loops were not available as a UNE, are there any viable alternatives available to FDN to provide high-speed data service where BellSouth has deployed DLCs?
 - A. No. If viable alternatives were available, FDN would be selling DSL today to customers served by DLC loops in Florida.
 - Q. What options do you believe that BellSouth may assert as justifications for withholding UNE designation of broadband loops?
 - A. I am aware that ILECs have alleged that at least three alternatives are available to CLECs -- CLEC collocation of DSLAMs at the remote terminal, the use of all-copper loops, and construction of their own distribution network. None of these options offer viable options for FDN or other CLECs. If left only with these options, FDN would be not only impaired but prevented from being able to offer DSL service to a growing majority of Florida consumers, and, as a result, would be impaired in its ability to offer voice local exchange services as well.
 - Q. Could FDN provide ubiquitous DSL service to end-users served by DLCs by collocating DSLAMs at BellSouth's remote terminals?
- A. No. The cost of providing ubiquitous service throughout the state of Florida by collocating DSLAMs at remote terminals would be staggeringly

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¹² See 47 C.F.R. § 51.317(c).

expensive, and well beyond the capability of FDN or other CLECs. FDN invested millions of dollars and much of its human and technical resources to collocate equipment in 100 of BellSouth's 196 central offices in the state of Florida. By contrast, BellSouth has more than 12,000 remote terminals in the state of Florida. Collocation on this scale is financially impossible for FDN and would be tantamount to duplication of a significant portion of BellSouth's monopoly-built last mile distribution network. In any case, collocation even at single remote terminals is precluded by numerous other factors. As evidence of this reality, according to BellSouth's discovery responses in this case, no CLEC has collocated, or even requested to collocate, at a BellSouth remote terminal in the entire state of Florida.

Q. What factors preclude CLEC collocation at individual remote terminals?

A. First, in most cases, even if BellSouth permitted FDN to collocate a DSLAM inside the remote terminal, no fiber feeder will be available to transport the telecommunications back to FDN's collocation site in the central office. BellSouth has repeatedly maintained that dark fiber will in most cases not be available to CLECs at these locations. In most or all cases, no dark fiber would be available from any third parties, as third parties would have had little reason to invest in fiber between two locations controlled and highly regulated by BellSouth. Therefore, in most cases, FDN could only use a remotely-collocated DSLAM if it were to construct its own fiber-optic

- transport between the remote terminal and FDN's facilities, such as those it

 has collocated at BellSouth's central office.
- Q. Could FDN construct its own fiber-optic transmission between
 BellSouth's remote terminals and central offices for the purpose of
 providing DSL service through remotely-collocated DSLAMs?
 - A. No. Such an endeavor would be prohibitively costly and time-consuming. The FCC noted that "the costs associated with self-provisioning or purchasing alternative elements from third-party suppliers are relevant to [a] determination of whether the element is a practical and economical alternative to the incumbent LEC's unbundled network element." The cost of constructing new fiber facilities would be incredibly expensive, and completely unaffordable, to FDN or to a third-party supplier. Such construction would require FDN to incur tremendous costs to secure rights-of-way, dig up the path of the fiber, and install equipment. These costs would not justify the comparatively limited revenues that could be realized from high-speed data services to the limited number of end-users served by a single remote terminal.
 - Q. How would these costs compare to the costs borne by BellSouth for its DSL connectivity?
 - A. BellSouth has already years ago secured rights-of-way and incurred most of the costs of placing fiber. Unlike FDN, BellSouth would not be required to place new fiber in order to carry new traffic. When BellSouth informs CLECs that no dark fiber is available, that does not mean that no

¹³ UNE Remand Order at § 72.

fiber is available for BellSouth's use. ILECs typically reserve a substantial amount of fiber capacity between their remote terminals and central offices. Therefore, BellSouth would not have needed to place new fiber facilities to add DSLAMs and DSL to its remote terminals. Furthermore, even if its bandwidth were exhausted between an RT and central office, BellSouth can upgrade its bandwidth by changing the electronics on the ends of its lit fiber to secure additional bandwidth for its DSL. This option, which BellSouth will not provide to CLECs, is tremendously cheaper than installation of new fiber. Even if dark fiber was available, would FDN be able to collocate Q. DSLAMs at BellSouth's DLCs? No. In many cases, collocation may not be physically possible, and in A. all or nearly all cases, it would be prohibitively expensive and time consuming for FDN. Why would CLEC DSLAM collocation at BellSouth remote O. terminals be physically impossible in some circumstances? The vast majority of BellSouth's 12,000-plus remote terminals in A. Florida are cabinets, which are much smaller than other typical RT structures, such as huts or controlled environmental vaults. Many DLCs therefore are housed in structures that are too small to support additional collocation of DSLAMs and necessary supporting infrastructure by several CLECs, or perhaps even by a single CLEC. DSLAMs require power and climate control infrastructure that likely is often not available at a remote terminal. Addition

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of this additional infrastructure would require even more space, which may not be available.

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- Q. Why would collocation of a DSLAM at BellSouth remote terminals be prohibitively expensive and time-consuming for FDN?
- DSLAM power and temperature control requirements exceed the A. standards of many remote terminals. CLECs would incur tremendous expense and delays in arranging for sufficient power capacity and infrastructure. In addition, as I noted above, if space within the RT were unavailable, FDN would be required to build an external structure to house its facilities, which would require substantial time and expense, including, but not limited to, securing acquisition of new land and/or establishment of new rights-of-way and all other approvals from local authorities necessary to construct FDN's own remote terminals. Remote terminals are often located in residential neighborhoods and are subject to increasing scrutiny. Neighborhoods now quiet about the presence of a single remote terminal may well object to plans by numerous CLECs each to place their own remote terminals. FDN, which does not have long-standing relationships with local authorities, could experience significant delays or expenses in securing such permission, if not outright rejection. On top of these expenses, BellSouth might seek to charge FDN for cross-connection facilities to its remote terminal. Taken together, ubiquitous collocation of DSLAMs at BellSouth remote terminals would cost FDN millions of dollars and would require years of difficult, if not impossible, efforts.

Q. Could FDN cost-justify these high DSLAM collocation expenses at a remote terminal for the purpose of offering DSL?

No. DSLAMs are very often too expensive to justify at a remote A. terminal due to the smaller number of customers that are served by an RT. Also, the FCC has determined that, in applying the cost factor of the impairment test, the state commission should consider the economies of scale enjoyed by incumbents as a result of their ubiquitous networks.¹⁴ Unlike at a central office, the level of concentration present at a remote terminal is often as low as a hundred or a few hundred lines in total. At least in their early years of operations, CLECs cannot realistically hope to obtain a "take rate" of more than a small, single digit percentage of the total possible market for DSL service. BellSouth is able to garner a higher take rate, at least initially, because of its greater name recognition and established relationships with existing customers. Therefore, the cost of establishing a DSLAM collocation arrangement and fiber connectivity at each remote terminal may be so prohibitive as to never make economic sense given the few customers that any given CLEC might serve from an individual remote location. Indeed, if collocation of a stand-alone DSLAM at the remote terminal were the only available "option", DSL competition in markets served by DLCs might never develop.

Q. Would CLECs be able to collocate DSLAMs at BellSouth remote terminals on the same terms and conditions afforded by BellSouth to its own DSL operations?

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¹⁴ UNE Remand Order at ¶ 84.

No. First, as I mentioned before, BellSouth has indicated that it will A. not provide the lit fiber to CLECs that BellSouth's DSL utilizes for transport Second, CLECs will be severely disadvantaged to the central office. wherever BellSouth deploys Next Generation Digital Loop Carrier ("NGDLC") systems, because BellSouth will be able to use digital line cards rather than DSLAMs at the remote terminal. These line cards, which perform the role of the DSLAM in NGDLC architecture, are small pieces of electronic equipment that that are plugged directly into the channel bank assembly of the Digital Loop Carrier. 15 Line cards are significantly smaller and cheaper and are more effective even than the smallest commercial DSLAM. I understand from BellSouth's statements in other proceedings that it has opposed collocation by CLECs of line cards at BellSouth NGDLCs. Therefore, BellSouth would deny the ability of CLECs to place DSLAM functionality at the remote terminal on the same terms and conditions that it affords to its own operations.

Q. You testified that it would be prohibitively time-consuming for FDN to collocate stand-alone DSLAMs and connect to lit fiber at BellSouth remote terminals. At what point does the resulting delay to FDN's deployment constitute an impairment of FDN's ability to provide high-speed data service?

A. Even if FDN had sufficient funding to collocate remote DSLAMs and construct or obtain lit fiber to the central office, the process in my estimation would require well more than one year before FDN could start to provide

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¹⁵ See, e.g., Pronto Order at ¶ 16.

service, and perhaps much longer. Construction of new external remote facilities or placement of new fiber could require time-consuming public approval processes. Furthermore, it is my understanding that in one of the few instances where a CLEC attempted to collocate a DSLAM at an ILEC remote terminal, cross-connection and construction issues remained unresolved more than one year after the initial collocation request was made. The FCC has held that "delays caused by the unavailability of unbundled network elements that exceed six months to one year may, taken together with other factors, materially diminish the ability of competitive LECs to provide the services that they seek to offer."16 FDN and the investors on which it relies place a valuable premium on speed to market, which is critical in the telecommunications market, especially for new advanced services. The FCC observed the importance of speed to market, noting that "incumbent LECs can take advantage of delays caused by the unavailability of unbundled network elements by using their unique access to most customers to gain a foothold in new markets, and, in markets where services may be offered pursuant to long term-contracts (e.g., DSL and other advanced data services), to 'lock-up' customers in advance of competitive entry." 17 Moreover, delays in the introduction of competitive services caused by the unavailability of unbundled elements would give BellSouth valuable time to entrench itself with existing customers. 18 If forced to endure delays of additional months or

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¹⁶ UNE Remand Order at ¶ 89.

¹⁷ UNE Remand Order at ¶ 91.

¹⁸ See UNE Remand Order at ¶ 93.

years to build new remote structures, collocate DSLAMs, obtain cross-connections and deploy lit fiber, all while BellSouth adds thousands of new DSL customers in Florida every month, FDN will suffer serious competitive injuries. Delays increase the risk that FDN will fall irreparably behind BellSouth in the high-speed data market, and further enable BellSouth to use its growing control of the Florida DSL market to injure FDN's position in the voice services market.

Q. Would it be possible for FDN to offer DSL on a ubiquitous basis over home run copper loops that do not pass through the BellSouth's DLCs?

A. No. In the first instance, many DLCs are deployed at locations where copper loops are longer than 18,000 feet, and are therefore too long to carry DSL signals. Even where home run copper loops are DSL-capable, the quality of the DSL transmissions would be inferior to DLC loops and therefore would not be competitive in the consumer market. The FCC concluded that "the quality of alternative network elements available to the competitive LEC is relevant to a determination of whether a requesting carrier's ability to provide service is impaired" and that "a material degradation in service quality associated with using an alternative element will materially diminish a competitor's ability to effectively provide service." Second, in many BellSouth serving areas, no copper facilities remain available for DSL.

¹⁹ UNE Remand Order at ¶ 96.

Q.	Could	FDN	self-provision	DSL	transport	to	end-users	who	are
served	by Bell	South	n DLC facilities	s?					

A. No. FDN cannot replicate BellSouth's facilities in order to sell DSL. Even if FDN had at its disposal the billions of dollars that ILECs are spending on the deployment of DLC loop facilities, it would cost FDN billions on top of that amount to produce a functionally equivalent last mile distribution network to carry FDN's own telecommunications. BellSouth's DLC facilities utilize BellSouth's existing copper distribution network, existing rights-of-way, and existing remote terminal facilities. Furthermore, construction of a new distribution network would require several years at a minimum. Therefore, this is clearly not a realistic option for FDN. Further, I believe that competitive voice service to residential users would be accelerated, as competitors to Bellsouth would have access to both parts of the competitive "bundle" of voice and data.

Q. Can FDN obtain DSL transport to end-users served by BellSouth DLCs from a third-party provider?

A. No. I am not aware of any third-party provider that could and would provide the last mile distribution facilities necessary for high-speed data services to FDN or other CLECs on a ubiquitous basis throughout BellSouth territory, or even in a small fraction of that territory. Any third party would face the same obstacles that prevent FDN from constructing its own last mile distribution network. Given FDN's interest in obtaining such access, I

- believe to a near certainty that I would be aware if a viable, ubiquitous third party provider were available in Florida.
- Q. Would the availability of a broadband UNE promote the rapid introduction of competition for high-speed data services in Florida?
- A. Yes. I agree with the FCC's finding in the Project Pronto Order that
 the availability of a broadband offering would promote the rapid introduction
 of competition.²⁰ FDN would plan to obtain this service as soon as possible
 and would be able to offer DSL soon thereafter. The availability of a
 broadband UNE loop would have a far more immediate and profound effect
 on DSL competition in Florida than it had in SBC's region due to the higher
 percentage of BellSouth DLCs deployed in the state.
- Q. Would the broadband UNE loop that you have proposed include packet switching functionality?
- 14 A. Yes.
- Q. Has the FCC established a test used to determine whether packet switching must be unbundled?
- 17 A. Except for the "impair" standard I described above, the FCC has not
 18 issued a generally applicable test to determine whether packet switching
 19 should be unbundled. However, in the 1999 UNE Remand Order, the FCC
 20 created a four-part test setting forth one set of circumstances where packet
 21 switching clearly must be unbundled. ILECs have argued that a state
 22 commission may order unbundling of packet switching only when this test is
 23 satisfied; however, nothing in the Order suggests that packet switching may

²⁰ Project Pronto Order at ¶ 23, 30.

not be unbundled in other circumstances. Once a state commission finds that a CLEC would be impaired without access to unbundled packet switching, it can and should order such unbundling without literal application of the *UNE Remand* test.

Q. Could you please state the packet switching unbundling standard from the UNE Remand Order?

A. The test set forth in the *UNE Remand Order* requires ILECs to unbundle packet switching when (1) the ILEC has installed DLC systems; (2) there are no spare copper loops that are capable of supporting the xDSL services the CLEC seeks to offer; (3) requesting CLECs are not allowed or able to collocate DSLAMs at ILEC remote terminals on the same terms and conditions that apply to the ILEC's own DSLAM; and (4) the ILEC has deployed packet switching for its own use.²¹

Q. Are these four conditions met for the purposes of this arbitration?

A. Yes. BellSouth has indisputably installed DLC systems, and likely has the highest percentage of DLCs deployed of any large ILEC in the country. Second, in the vast majority of cases where BellSouth has deployed DLCs, there are no xDSL-capable copper loops available that FDN can use to provide high-speed data service. FDN and other CLECs have requested such loops through BellSouth's ordering system and received notice that no copper loop is available. My response to the third part of the test varies based on whether BellSouth has deployed NGDLC systems. Where NGDLCs are deployed, BellSouth's DSLAM functionality is performed through line cards

²¹ UNE Remand Order, at ¶ 313; 47 C.F.R. 51.319(c)(3).

plugged into the channel bank of the NGDLC. BellSouth will not allow CLECs to collocate their own line cards at the NGDLC. Where traditional DLCs are deployed, although BellSouth nominally allows CLECs to collocate stand-alone DSLAMs at the remote terminal, such collocation is subject to untenable terms and conditions, for the reasons I explained above. These reasons include, but are not limited to, the fact that BellSouth refuses to allow CLECs to connect the DSLAMs to the lit fiber that is used to carry BellSouth's high-speed data service to the central office. Because dark fiber is often not available, a CLEC DSLAM would be stranded at the remote terminal. Therefore, whether BellSouth deploys DLCs or NGDLCs, CLECs are denied collocation of DSLAM functionality on the same terms and conditions applicable to BellSouth's DSLAM functionality. Finally, it should be beyond dispute that BellSouth has deployed packet switching functionality for its own DSL services. Therefore, the FCC's four-part test is satisfied, and BellSouth must be ordered to offer unbundled packet switching where it has deployed DLCs. Should unbundled packet switching be made available generally O. or only where the Commission conducts a remote terminal by remote

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terminal unbundling analysis?

Because these conditions are satisfied in the vast majority, if not all, Α. of BellSouth's DLC deployments, a general unbundling requirement is warranted. Otherwise, BellSouth will be able to effectively prevent CLECs from obtaining service in a timely and affordable manner by delaying entry

- over protracted and expensive litigation addressing each one of BellSouth's hundreds or thousands of DLC sites.
- Q. Have any state commissions found that ILECs are required to unbundle packet switching at DLCs generally using the FCC's four-part standard?
 - A. Yes. The Illinois Commerce Commission found that the test had been satisfied in ordering Ameritech to unbundle broadband loops. In addition, the New York Public Service Commission declined to make this determination *only* because Verizon was not yet currently deploying packet switching for its own use or for the use of an affiliate. The New York Commission held that, were Verizon to deploy packet switching for its own use or to its affiliate, it would have to offer it to all competitors. The facts of the New York case were materially different than here because of the far more advanced stage of BellSouth's DSL deployment over DLCs and ongoing utilization of packet switching for DLC loops in Florida. Had the Florida facts been before the New York Commission, a general unbundling of packet switching clearly would have been warranted.
 - Q. Is the Florida Commission required to apply a four-part test established in the FCC's UNE Remand Order for unbundling of packet switching if before it can designate broadband loops as UNEs?

²² Illinois Pronto Arbitration Order at 31.

²³ Proceeding on the Motion of the Commission to Examine Issues Concerning the Provision of Digital Subscriber Line Services, Case 00-C-0127, Opinion and Order Concerning Verizon's Wholesale Provision of DSL Capabilities Opinion No. 00-12 (N.Y. P.S.C. October 31, 2000).

1	A. No. As I stated previously, the Florida Commission can and should
2	order unbundling of packet switching if it finds that CLECs would be
3	impaired without such access, pursuant to the terms of FCC Rule 51.317.
4	The four-part test from the UNE Remand Order is only one of many routes
5	that the Commission could take to find such impairment. Above all, the
6	Commission should consider that the fundamental purpose of the FCC test is
7	clearly to enable CLECs to offer high-speed data service where the ILEC has
8	deployed Digital Loop Carriers. If FDN had such access, it would be
9	providing high-speed data over these loops today. BellSouth's contrived
10	arguments that the UNE Remand Order precludes the unbundling of packet
11	switching fails when viewed in the context of the purpose of the FCC's order
12	and the reality today that CLECs lack meaningful access to DLC loops.
13	Therefore, the BellSouth should be required to unbundle packet-switched
14	broadband loops in Florida.
15	III. BELLSOUTH IS REQUIRED BY SECTION 251(C)(4) OF THE
16	FEDERAL ACT TO OFFER ITS HIGH-SPEED DATA SERVICE FOR
17	RESALE
18	Q. Should BellSouth be required to offer wholesale high-speed data
19	service to FDN for resale pursuant to Section 251(c)(4) of the
20	Telecommunications Act of 1996?
21	A. Yes. BellSouth and its affiliates are required to offer, on a discounted
22	wholesale basis, all of their retail telecommunications services, including
23	xDSL and other high-speed data services, pursuant to the resale obligations

- applicable to incumbent local exchange carriers under Section 251(c)(4) of
 the Federal Act. While resale is not FDN's preferred means of access, and,
 under FCC Orders, is not a substitute for UNE access,²⁴ the Act does require
 BellSouth to offer it, and BellSouth should be required to provide FDN such
- Q. Does BellSouth offer for resale its high-speed data services today under the terms of Section 251(c)(4)?
 - A. No. BellSouth's only wholesale high-speed data service in Florida is its voluntary, market-rate offer to Internet Service Providers (ISPs). BellSouth offers this service only for telephone lines on which BellSouth is the local exchange carrier. Therefore, this service is not a long-term option for FDN, which seeks to combine high-speed data services on the same line as its facilities-based local exchange service. Furthermore, since BellSouth considers the service to be voluntary, there is no guarantee that it will continue to be made available at rates, terms and conditions that would allow a competitor to compete with BellSouth's retail service.
 - Q. If a resold DSL product were available pursuant to Section 251(c)(4), could BellSouth refuse to resell DSL to CLECs for use on lines where it is not the local exchange carrier?
- 20 A. No. An ILEC cannot impose unreasonable or discriminatory
 21 limitations on resale services provided under Section 251(c)(4).
- Q. What retail products does BellSouth offer to provide high-speed data service?

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access in this case.

²⁴ See UNE Remand Order at ¶ 67.

A. To the best of my knowledge, BellSouth's consumer high-speed data service is sold as BellSouth Fast Access Internet Service. FDN seeks to be able to resell the telecommunications portion of this service, which, depending on BellSouth's deployment, could be provided either over DSL, fiber-fed DLC, or all-fiber loops. I will refer to the telecommunications portion of this service as BellSouth's retail DSL service, but for the purposes of this testimony I intend to include with this term any technology BellSouth uses to provide consumer high-speed data services. BellSouth offers other higher-capacity high-speed data services, such as T-1 service, but these services are not a subject of this arbitration.

Q. On what basis has BellSouth refused to offer resold DSL service under Section 251(c)(4)?

A. BellSouth claims that its DSL services are exempt from the resale obligations of Section 251(c)(4) of the Telecommunications Act, which applies to retail telecommunications services. As I understand its position, BellSouth maintains that its local exchange carrier entity does not sell retail DSL, but instead sells DSL only to Internet Service Providers (ISPs). This position is based upon the FCC's 1999 decision that sales of DSL to ISPs are wholesale services that are exempt from resale obligations under Section 251(c)(4).²⁵ However, the BellSouth group of companies, taken together, is the largest retail DSL provider in Florida. BellSouth does sell retail DSL through an ISP that it owns and controls. BellSouth's ISP obtains DSL from

²⁵ Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket 98-147, Second Report and Order, FCC 99-330 (rel. November 9, 1999) ("UNE Remand Order").

BellSouth's local exchange company. BellSouth promotes and sells its telephone and DSL services using the same advertisements, customer service and sales agents, and Internet sites, including www.BellSouth.com. Revenues from DSL sales and telecommunications services are reported together and accrue for the benefit of the same BellSouth shareholders. If BellSouth were permitted to avoid its Section 251 obligations by selling all of its telecommunications service on a wholesale basis to other affiliates, it would render the unbundling and resale obligations of the Federal Act meaningless. Therefore, retail sales of telecommunications services by any BellSouth affiliate should be attributed to the local exchange carrier operation for the purposes of Section 251.

Q. Have any courts interpreted an ILEC's resale obligations where retail services are sold by an affiliate of the ILEC rather than by the ILEC itself?

A. Yes. In ASCENT v. FCC,²⁶ decided in January 2001, the United States Court of Appeals for the District of Columbia held that retail sales of advanced telecommunications services by ILEC affiliates are subject to the resale obligations of the Act. The court found that an ILEC may not "sideslip § 251(c)'s requirements by simply offering telecommunications services through a wholly owned affiliate." Although the case involved a regulation pertaining only to SBC, the logic of the decision applies equally to BellSouth. Therefore, the FCC's ISP exemption cannot be read to exempt BellSouth

²⁶ Association of Communications Enterprises v. FCC, 235 F.3d 662, (D.C. Cir. January 9, 2001) ("ASCENT").

- from its obligation to resell the retail telecommunications service that is provided by any BellSouth affiliate.
- Q. Have any states taken steps to require an ILEC to make available for resale the retail DSL products of separate ISP affiliates?
- Yes. On May 7, 2001, the Connecticut Department of Utility Control 5 A. (DPUC) issued a draft decision that would require the state's largest 6 incumbent, Southern New England Telephone Company (SNET), to resell 7 any telecommunications service, including DSL, that is sold by its ISP 8 affiliate and any other affiliates. The draft decision rejected arguments by 9 SNET that are virtually identical to those offered by BellSouth. As the DPUC 10 noted, "[t]he ASCENT Decision clearly holds that 'an ILEC [may not be 11 permitted] to avoid § 251(c) obligations as applied to advanced services by 12 setting up a wholly owned affiliate to offer those services.' [SNET's] 13 repeated claim that this holding has no application to the services it offers 14 ignores that decision's plain language."27 15
 - Q. Is FDN asking that BellSouth be required to resell both the telecommunications and enhanced services that are sold together by BellSouth's ISP?
- A. No. Section 251 applies only to telecommunications services, and that is all that FDN is seeking to resell. However, BellSouth cannot refuse to separate its telecommunications service from its enhanced services for the purpose of denying resale. FCC bundling rules require BellSouth to offer its

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²⁷ Petition of DSLnet Communications, LLC Regarding Section 251(c) Obligations of the Southern New England Telephone Company, Docket 01-01-17, Draft Decision at 9 (Conn. D.P.U.C. May 7,* 2001) (internal citations omitted).

telecommunications services separately from any enhanced services, even if 1 it only sells them as a bundled product.²⁸ 2 If BellSouth only offers a bundled DSL and ISP product to the 3 O. public, how should the resale rate under Section 251(c)(4) be calculated? 4 A. BellSouth's current bundled ADSL/Internet Service rate, according to 5 its Internet web site, is \$49.95, which includes DSL transport and unlimited 6 access Internet service. When unlimited Internet service is ordered separately 7 from BellSouth, the cost is \$20.95. Therefore, in the absence of any 8 9 Commission-approved cost study allocating costs between the DSL and Internet service, the DSL transport service should be attributed to have a 10 retail rate of \$29.95. The existing resale discount rates established by the 11 Florida Commission would be applied to the \$29.95 rate. BellSouth would 12 be free to avail itself of any procedures available under this Commission's 13 14 rules and prior decisions to seek modifications to the discount rates or to seek the establishment of a specific rate applicable to DSL. 15 FDN'S REQUEST IS NOT INCONSISTENT WITH PRIOR 16 IV. **COMMISSION DECISIONS** 17 Prior arbitration decisions in Florida have rejected arguments 18 Q. 19 that BellSouth should be required to provide splitters to CLECs. Is

FDN's request inconsistent with those decisions?

²⁸ Policy and Rules Concerning the Interstate, Interexchange Marketplace, CC Docket 96-61; 1998 Biennial Regulatory Review – Review of Customer Premises Equipment and Enhanced Services Unbundling Rules in the Interexchange, Exchange Access and Local Exchange Markets, CC Docket 98-183, Report and Order, FCC 01-98 (rel. March 30, 2001), at ¶ 39.

A. No. FDN recognizes that the Commission has previously decided not to require BellSouth to offer unbundled splitters to CLECs in the central office. The fact that FDN's proposed broadband UNE loop includes splitter functionality at the remote terminal is not inconsistent with these prior findings. In the central office environment, there is no dispute that CLECs are able to collocate equipment, and in these prior cases, CLECs sought unbundled splitters for reasons other than complete infeasibility. At remote terminals, as I have explained previously, CLECs cannot realistically collocate DSLAMs. For the same reasons, CLECs cannot collocate splitters at RTs. In addition, unlike the central office that may have multiple DSLAMs, it would be nonsensical to have multiple splitters all lined up to connect to a single (BellSouth) DSLAM.

Furthermore, in NGDLC systems, the splitter is an inseparable part of the same line card equipment that performs DSLAM functionality. Unlike most current central office deployments, where the splitter is a separate item of equipment, inclusion of splitter functionality requires no additional burden on BellSouth. I am not aware of any technically feasible means of performing splitter functionality in NGDLC loops other than by the line card. The fact that the splitter functionality is included does not alter the Commission's overall impairment analysis for broadband loops.

Q. Why do you believe that the Line Sharing Reconsideration Order did not endorse the ILECs' refusal to sell DSL service?

A. The FCC did not find that ILECs may lawfully refuse to provide DSL service on lines on which it is not the retail voice carrier. On the contrary, the FCC determined only that AT&T's request was beyond the scope of a reconsideration order, which, for procedural reasons, was limited to consideration of the ILECs' obligation to provide access to line sharing to data CLECs who would provide DSL service. The FCC specifically noted that it did *not* rule on the merits of AT&T's argument, instead noting that any party aggrieved by an ILECs refusal to provide service could file a petition alleging that the ILECs practice constitutes an unreasonable practice in violation of the common carrier obligations to provide service to the public on a nondiscriminatory basis, pursuant to Section 201 of the Communications Act of 1934.

- Q. Has FDN considered pursuing a complaint at the FCC based on Section 201 to require ILECs to sell DSL service to requesting consumers who subscribe to CLEC voice services?
- A. Not at this time. As I stated before, FDN is not seeking a requirement that BellSouth provide retail xDSL service to FDN's local exchange customers. Instead, FDN is seeking access only to the resale and UNE products that it is entitled to under Section 251(c) of the Telecommunications Act of 1996 so that it may provide its own retail DSL service. However, if FDN later decided to pursue a different strategy, I would consider filing a Section 201 complaint at the FCC. BellSouth can offer no reasonable justification for its policy, which clearly appears designed to leverage its

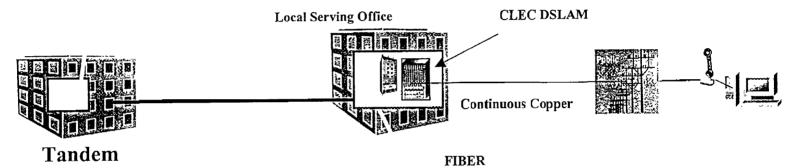
market power in the high-speed data market as an anticompetitive tool to injure its competitors in the voice services market. Because competitive providers of DSL have been unable to offer DSL service where DLCs are present, there have always been fewer competitive options in BellSouth territory in Florida to the extremely high percentage of such loops. Now, with numerous competitive DSL providers folding or downsizing even in markets where copper loops were more readily available, if FDN does not obtain the relief requested in this case, there is a very real possibility that BellSouth will in the foreseeable future be the only remaining DSL provider in its incumbent region in Florida. Therefore, BellSouth's ability to exert unreasonable and unlawful anticompetitive pressures on the voice services market will continue to increase. For these reasons, BellSouth's refusal to offer xDSL service to Florida consumers who purchase facilities-based voice service from CLECs is unreasonable and unlawful.

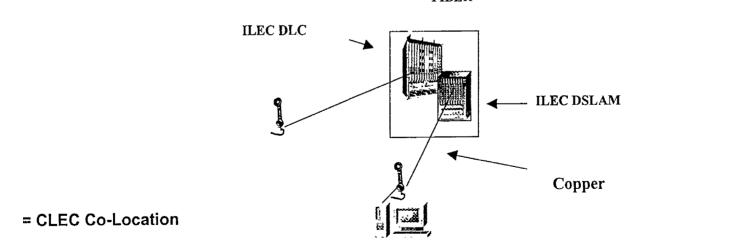
ISSUE 2 -- SETTLED

ISSUES 3A & 3B.

- Q. Issues Nos. 3A and 3B concern trouble ticket closure and charges.
- Please describe FDN's position on Issues Nos. 3A and 3B.
 - A. FDN experiences a significant number of trouble conditions for loss of dial tone or other service problems that FDN believes are attributable to BellSouth's service or facilities. Accordingly, FDN has a keen interest in BellSouth's disposition of trouble tickets and how FDN might be charged for trouble tickets. FDN does not dispute BellSouth's request to charge







CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing was furnished to the following parties by U.S. Mail this day of December, 2001.

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