

FLORIDA PUBLIC SERVICE COMMISSION

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M E M O R A N D U M

SEPTEMBER 12, 1991

TO : DIRECTOR, DIVISION OF RECORDS AND REPORTING

FROM : DIVISION OF COMMUNICATIONS [BROWN, GREER] *516*
DIVISION OF LEGAL SERVICES [GREEN] *903 873* *6PP*

RE : DOCKET NO.: 910535-TL - TARIFF PROPOSAL TO INTRODUCE
ESSX INTEGRATED SERVICES DIGITAL NETWORK (ISDN) SERVICE
BY SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY (T-91-
153, FILED 3/28/91)

AGENDA: SEPTEMBER 24, 1991 - CONTROVERSIAL - PARTIES MAY
PARTICIPATE

CRITICAL DATES: COMPANY WAIVED 60 DAY STATUTORY PERIOD

DISCUSSION OF ISSUES

ISSUE 1: Should the tariff to introduce ESSX Integrated Services Digital Network (ISDN) service by Southern Bell be approved?

RECOMMENDATION Yes, Southern Bell's tariff request to introduce ESSX Integrated Services Digital Network (ISDN) basic rate interface offering should be approved with an effective date of October 1, 1991.

STAFF ANALYSIS: On March 28, 1991 Southern Bell filed tariff revisions to introduce ESSX Integrated Services Digital Network (ISDN) - Basic Rate Interface offering.

Background

ISDN is not a service offering. However, ISDN is a different means of providing service. ISDN can be thought of as a huge information pipe, based on digital conductivity. The ISDN will be capable of providing end-to-end digital communications and a full integration of technologies (circuit switching, private line, packet switching, etc.) and applications (voice, data, and image) over existing twisted-pair wiring. Attachment A provides an example of an end user with and without ISDN service. The picture shows how services today require multiple lines and how with ISDN these services can be provided on a single line.

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FPSC-RECORDS/REPORTING

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In North America, ISDN has two interfaces which are utilized for subscriber access to the integrated network, Basic Rate Interface and Primary Rate Interface.

The Basic Rate Interface (BRI) is also known as the 2B+D interface. The BRI is made up of three (3) channels, two 64 kilobits per second (kbps) information channels (Bearer or "B" channels) and the third, one 16 kbps out of band signaling channel. The third channel is referred to as the "D" or Delta channel.

The Primary Rate Interface (PRI) is similar to currently available T1 carrier transmission facilities. The difference between a T1 and the PRI, is the advantage of out-of-band signaling for PRI. Out-of-band signaling makes for faster call setup and increases channel capacity. The PRI has a 23B+D format. As noted above the "B" channels have a capacity of 64 kbps each and the "D" channel under PRI also has a 64 kbps capacity.

Therefore, the difference between the BRI and PRI is capacity. The BRI with its three channels only has a capacity of 144 kbps. While the PRI has a capacity of 1.544 megabits per second (Mbps).

There are several key areas that will increase customer appeal for ISDN. These key attributes include accessibility, performance and cost effectiveness. In the area of accessibility, the ISDN wiring arrangement reduces wiring complexity since it makes use of existing twisted pair within the network and on the customer premises. For example, ISDN eliminates the need for redundant wiring to the desk-top computer, a customer will be able to use one line for both voice and data transmission requirements. ISDN also reduces the need for coaxial cable which is more expensive to install and maintain. In addition, the ISDN should simplify and reduce costs of moves and changes. ISDN digital lines provide higher data speeds than analog telephone lines. End-to-end digital connectivity offers better transmission quality with fewer errors.

Southern Bell is proposing to introduce the ESSX ISDN Basic Rate Interface due to the recent adoption of industry BRI standards. The company indicated that a PRI filing is to be filed later in the fall of this year pending adoption of industry standards. These standards will enable end-to-end digital transmission, access integration, and establish standardization

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of points of interconnection over a single access line. The end-to-end digital connectivity eliminates the necessity for voice-band modems that utilize analog signal processing techniques. The Access integration refers to the fact that by utilizing a single ISDN - BRI link, a customer can access a wide variety of user information services such as voice, circuit switched data, and packet switched data over a single telephone line.

Tariff

The Commission approved an ISDN filing by GTE at the May 21, 1991 agenda conference. Southern Bell's initial filing was made at the same time as GTE's however, Southern Bell's initial tariff proposal included provisions to allow the mixture of flat and measured services at the same location. The Company requested additional time to address some administrative problems due to the proposal to allow the mixture of the services. The Company stated that in other jurisdictions, where ISDN had been implemented, customers were finding ways to manipulate their systems to allow incorrect billing. The Company attempted to find administrative measures to address the problem; however, the Company could not identify a solution. Therefore, Southern Bell modified its tariff filing to remove the provision that allowed the mixture of flat and measured services at the same location. Staff believes that this was the appropriate action to take. Southern Bell's offering differs both in rate structure and customer limitations. GTE's ISDN service is not restricted to only centrex customers, however GTE does not expect a large amount of demand from none centrex customers for its ISDN service.

Southern Bell sees ESSX ISDN as an addition to a customer's current Digital ESSX system instead of a replacement. The service will allow customers who may be currently subscribing to additional data services (i.e. AccuPulse and PulseLink) to use these services in conjunction with their Digital ESSX service. ESSX ISDN is not seen as a replacement of Digital ESSX; only as a more efficient use of the network by integrating data and voice traffic. The proposed tariff provides for the normal regulations and restrictions of Digital ESSX service.

ISDN services under this tariff will be offered where technologically available. Southern Bell will require subscribers with mixed or flat rate Digital ESSX service to choose circuit switched B-channels designated for use with mixed or flat rate systems. The B-channels will include a usage surcharge in lieu of the usage charges normally charged. ESSX

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ISDN service subscribers with measured Digital ESSX service must choose circuit switched B-channels designated for use with all measured systems. Usage charges are applicable for circuit switched data and packet switched data for transmissions outside of the subscribers business group and outlined in the tariff sections A3 for circuit switched data and A29 for packet switched data.

Southern Bell's ESSX ISDN implementation will have a limited service area at first due to technical considerations. The current plan for office availability for ESSX ISDN services in Southern Bell's territory is listed below:

1991

Gainesville Main
Gainesville Northwest
Jacksonville - Beachwood
Jacksonville - Clay Street
Jacksonville - Southpoint
Jacksonville - Wesconnett
Mandarin Avenues
Mandarin - Loretto
Miami - Airport
Miami - Flagler
Miami - Grande
Miami - Palmetto
Miami - Red Road
Orlando - Azalea Park
Orlando - Magnolia
Orlando - Pinecastle

1991

LakeMary
Boca Raton Boca Teeca
Boca Raton Main
Ft. Lauderdale - Main Relief
Ft. Lauderdale - Oakland
Ft. Lauderdale - Sawgrass
Ft. Lauderdale - Weston
West Palm Bch. Haverhill

1992

Miami - Canal
Miami - Hialeah
Miami - Northside
Boca Raton - Sandalfoot

Rates and Cost

Southern Bell's proposed rate structure for ESSX ISDN service consists of seven basic elements: Digital ESSX service Common Equipment, Basic Rate Digital Subscriber Line (DSL), ISDN Loop, ISDN Bearer (B Channel) Alternative services, Usage Charges, Features, and Network Access (NARS). These elements can be arranged in several configurations to best suit the customer needs. There are both recurring and nonrecurring rates associated with the rate elements. Attachment 2 (the proposed Tariff) outlines the proposed rates.

The Digital ESSX service Common Equipment represents the rate element for equipment a customer would normally purchase with a Digital ESSX service. The Basic Rate Digital Subscriber Line (DSL), is a new form of access to the customer's Digital

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ESSX service system. The ISDN Loop Access Mileage represents the Digital ESSX loop charge. The Bearer Alternative Services are the alternatives that can be selected for the B and D channels. The Usage rate element is charged for packet switching outside the business group and circuit switching outside the business group. The usage rates are rated at the current usage rates for these services. The Features elements are for the many different feature packages available for ESSX ISDN service subscribers. The Network Access element represents the charge for network access registers allowing access to the switched network. The Network Access is rated at the current tariff rates for these services.

The Bearer Alternative Services assigns voice or data traffic to one of the two available B-channels on the ESSX ISDN loop. If the customer desires that both available B channels be dedicated to voice service, two (2) B-Voice Channel elements would be required. A typical configuration could include one B-Voice Channel and one B-Circuit Switched Data Channel. This type of configuration would utilize both B channels on the ESSX ISDN loop and would allow for simultaneous voice and data over the same loop.

Dedicated high speed packet switched data provisioning dedicates the B-channel to packet switched data. Again, if the end user desires both B-channels can be dedicated to packet switched data service.

The D-channel allows the customer to utilize the D-channel for packet switched data. As noted earlier a single D-channel is available independent of the B-channel configuration. The speed of the D-channel is less than the packets available for the B-channel.

Along with the rate elements discussed there are several features available for ISDN service depending on the desired channel configuration. Attachment 2 outlines the available voice, circuit switched data and packet switched data features.

The rates developed for the ESSX ISDN rate elements were based on costs developed using Bellcore's Switching Cost Information System (SCIS). This is one of the industry's standard cost methodologies used to develop switching cost. The costs developed appear to be appropriate. The rates are priced above the SCIS costs and therefore appear to provide adequate levels of contribution.

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Customer Impact

Southern Bell provided staff with a typical customer impact based on an end user requesting ESSX ISDN in addition to their current Digital ESSX service. There is no typical system for ESSX ISDN these examples make assumptions in order to compare a Digital ESSX system with and without ESSX ISDN. The examples are as follows:

**Digital ESSX with Circuit Switched Data (AccuPluse) vs.
Digital ESSX / ESSX ISDN with Circuit Switched Data**

Assumptions:

Original system has 350 line Digital ESSX service system at 60 month rates. 300 lines used for voice and 50 lines used for circuit switched data (AccuPluse).

Replacement system will substitute 50 lines used for voice and 50 lines used for circuit switched data with ESSX ISDN lines. The system will then reflect 250 Digital ESSX service lines with 50 ESSX ISDN service lines.

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Digital ESSX with Circuit Switched Data		Digital ESSX / ESSX ISDN with Circuit Switched Data	
Common Block (1)	\$0.00	Common Block (1)	\$0.00
Digital ESSX Voice Line Intercom (300)	\$3,135.00	Digital ESSX Voice Line Intercom (250)	\$2612.50
Digital ESSX Voice Line Exchange Circuit (300)	\$1,710.00	Digital ESSX Voice Line Exchange Circuit (250)	\$1,425.00
Switched data line C.O. Terms (50)	\$1,257.50	ESSX ISDN DSL Access (50) Exchange Circuit (50)	\$950.00 \$352.50
Switched data line Exchange Circuit (50)	\$285.00	ESSX ISDN B Channel V/D (100) D Channel low speed packet (50)	\$350.00 \$455.00
Total + Data Usage	\$6,387.50	Total + Data Usage	\$6,145.00
Per line + Data Usage	\$18.25	Per line + Data Usage	\$20.48

**Digital ESSX with Packet Switched Data (PulseLink) vs.
 Digital ESSX / ESSX ISDN with Packet Switched Data**

Assumptions:

Original system has 350 line Digital ESSX service system at 60 month rates. 300 lines used for voice and 50 lines used for packet switched data (PulseLink).

Replacement system will substitute 50 lines used for voice and 50 lines used for packet switched data with ESSX ISDN lines. The system will then reflect 250 Digital ESSX service lines with 51 ESSX ISDN service lines.

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Digital ESSX with Circuit Switched Data		Digital ESSX / ESSX ISDN with Circuit Switched Data	
Common Block (1)	\$0.00	Common Block (1)	\$0.00
Digital ESSX Voice Line Intercom (300)	\$3,135.00	Digital ESSX Voice Line Intercom (250)	\$2612.50
Digital ESSX Voice Line Exchange Circuit (300)	\$1,710.00	Digital ESSX Voice Line Exchange Circuit (250)	\$1,425.00
Switched data line C.O. Terms (50)	\$1,257.50	ESSX ISDN DSL Access (51) Exchange Circuit (51)	\$969.00 \$359.55
Switched data line Exchange Circuit (50)	\$285.00	ESSX ISDN B Channel V/D (100) B Channel high speed packet (2)	\$350.00 \$240.00
PluseLink Interface (2)	\$523.80	ESSX ISDN D channel low speed packet (50)	\$455.00
Total + Data Usage	\$6,911.30	Total + Data Usage	\$6,411.05
Per line + Data Usage	\$19.75	Per line + Data Usage	\$21.29

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While the per line rates show some increase ESSX ISDN will provide the customer more flexibility. It should also be noted that there are nonrecurring rates associated with all the ESSX ISDN lines that amount to a large up front charge for customers.

Company Impact

Based on Company forecast, the total initial revenue (nonrecurring and annual recurring) is estimated to be \$572,798 with net revenue of \$112,294. ESSX ISDN is only provide from DMS 100 and 5ESS Digital Central Offices, thus limiting the potential market area.

Summary

Southern Bell has proposed to add ESSX ISDN BRI service as an add on to the Company's Digital ESSX service. Staff believes that the proposed tariff is adequate for ESSX services. However, staff has concerns that the service will only be limited customers of ESSX services. These concerns are eased by Southern Bell's commitment to offer primary rate interface (PRI) later this fall. The PRI offering will be directed to PBX customers and will provide these customers the same features that will be available to ESSX customers. In addition, with the implementation of ESSX ISDN the Company should gain some additional knowledge with the uses of ISDN like services. As noted earlier, BRI is intended to be used primarily as an addition to existing Digital ESSX services.

The Commission heard extensive testimony in the information services docket (Docket No. 880923-TL) that such a service is needed to insure the availability of information services in the future. Staff understands that ISDN is needed to move the state of Florida towards the information age. Additionally, the Commission has had the LECs state in other proceedings that this type of network will allow them to compete more effectively in areas of competition and provide greater efficiency in the network. Staff believes that Southern Bell's tariff proposal to introduce ESSX ISDN basic rate interface service is a step in the right direction to upgrade the network and to provide additional enhanced services. Southern Bell's ISDN filing has similar characteristics to tariffs filed for the same service in different jurisdictions. The rates for the services appear to cover their associated cost and provide some contribution. Therefore, staff recommends that Southern Bell's tariff to introduce ISDN basic rate interface should be approved.

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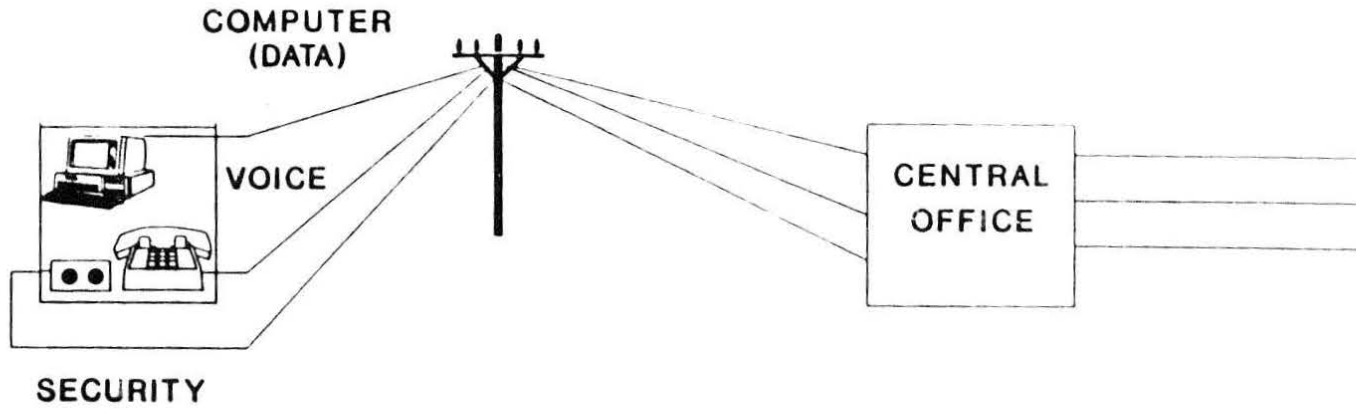
ISSUE 2: Should this docket be closed?

RECOMMENDATION: Yes, If Issue 1 is approved, this tariff should become effective on October 1, 1991. If no timely protest is filed, this docket will be closed.

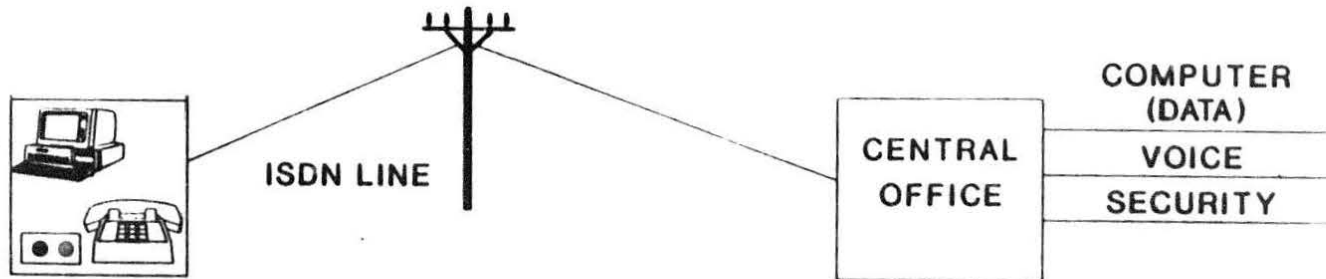
STAFF ANALYSIS: At the conclusion of the protest period, if no protest is filed, this docket should be closed.

9100535.STB

END USER WITHOUT ISDN



END USER WITH ISDN



SOUTHERN BELL TELEPHONE
AND TELEGRAPH COMPANY
FLORIDA

GENERAL SUBSCRIBER SERVICE TARIFF

First Revision Original Page 4
Cancels Original Page 4

ISSUED: ~~May 14, 1990~~ *MARCH 29, 1991*EFFECTIVE: ~~July 31, 1990~~

BY: Vice President
Miami, Florida

SEPTEMBER 3, 1991

A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

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ISSUED: May 14, 1990 *MARCH 29, 1991*
BY: H. C. Henry, Jr., Vice President
Miami, Florida

EFFECTIVE: July 31, 1990

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.17 Digital Electronic Tandem Switching Features (Cont'd)

A12.17.3 Rates and Charges, ETS Features (Cont'd)

- L. Direct Inward System Access (DISA), I (Cont'd)
 - 2. Per additional simultaneous access allowed

(a) Per addition access	Installation Charge	Term Payment Plan Monthly Rate				USOC RSG
		1 Month	36 Months	60 Months	84 Months	
	\$58.00	\$15	\$10	\$10	\$10	

(N)
(N)
(N)

A12.18 ESSX® ISDN Service

A12.18.1 General

- A. ESSX® ISDN service is an intrastate group of offerings supported by the Integrated Services Digital Network (ISDN) architecture. ESSX® ISDN service supports simultaneous transmission of voice, data, and packet transmission on the same exchange access line. ESSX® ISDN Service is available only to Digital ESSX® service customers. The ESSX® ISDN service lines in this offering can be added to Small, Medium, and Large Digital ESSX® service Systems under the same terms and conditions specified in A12.13 of this Tariff.
- B. ESSX® ISDN service provides a method of access to the subscriber's Digital ESSX® service system called Basic Rate Access. Basic Rate Access will consist of up to two 64 Kbps (B) channels and one 16 Kbps (D) channel at the service delivery point.

(N)
(N)
(N)
(N)

A12.18.2 Regulations

A. Explanation of Terms

B Channel

A bidirectional synchronous channel capable of supporting 64 Kbps of digital transmission.

D Channel

A 16 Kbps digital signaling channel also capable of supporting 9.6 Kbps of packet information for the Basic Rate Interface (BRI).

64 Kbps Clear Channel Capacity (CCC)

A B channel connection that provides end-to-end digital connection in which all 64 Kbps of bandwidth are available for customer use.

Packet Switching

ISDN packet switching service is a data transport service based on CCITT (Consultative Committee on International Telegraph and Telephony) X.25 protocol.

Configuration Groups

Configuration Groups use a similar software assignment concept to associate physical buttons of ISDN terminals to feature and actions. Since Configuration Groups use a group assignment process, it is necessary to group ISDN terminals together by type and common button action, so that terminals assigned to the same Configuration Group will operate in the same manner. Call appearances and features on one terminal's buttons will then appear on the same button numbers on any other terminal in the same Configuration Group, as long as the same features/call appearances are used on each terminal. If not, the buttons cannot be used for a different feature or function. Variations in terminal types, features, call appearances, and feature button location will necessitate multiple Configuration Groups.

(N)
(N)
(N)
(N)
(N)
(N)
(N)
(N)

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ISSUED: March 29, 1991

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BY: Joseph P. Lacher, President-FL
Miami, Florida

A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.2 Regulations (Cont'd)

B. Basis of Offering

1. Customer Premises Equipment (CPE) for use with ESSX® ISDN service Interface is the responsibility of the user for provisioning. (N)
2. The Company shall not be responsible if changes in any of the equipment, operations, or procedures of the Company utilized in the provision of Basic Rate ESSX® ISDN service render any facilities provided by the customer obsolete or require modification or alteration of such equipment or system, or otherwise affect its use or performance. (N)
3. Terms and conditions for ESSX® ISDN service are applied based on the system size (Small, Medium and Large) as defined in Digital ESSX® service in this Section of this Tariff. (N)
4. Suspension of service is not allowed. (N)
5. Service Order Charges and Central Office Line Charges in Section A4. of this Tariff are applicable in addition to rates and charges in A12.18.4 following. (N)
6. ESSX® service Flat Rate or Measured Rate Network Access Registers (NARs) as provided in Section A3 of this Tariff should be used with ESSX® ISDN service. Message Rate NARs should not be used with ESSX® ISDN service lines. (N)
7. ESSX® ISDN service subscribers with mixed or flat rate Digital ESSX® service must choose circuit switched B channels designated for use with Mixed or Flat Rate systems in this section of the Tariff. These B channel rates include a usage surcharge in lieu of the usage charges in Section A3. of this Tariff. ESSX® ISDN service subscribers with measured rate Digital ESSX® service must choose circuit switched B channels designated for use with all measured systems in this section of the Tariff. Usage charges defined in Section A3. of this Tariff are applicable for transmission outside of the subscriber's system or the subscriber's serving central office. Packet usage charges in Section A29 of this Tariff are applicable to both mixed or measured systems for all packet transmissions outside of the subscriber's system or the subscriber's serving central office. (N)
8. Each ESSX® ISDN service Basic Rate Access Arrangement line will be counted as a Digital ESSX® service line in determining the total system size. (N)

A12.18.3 Service Bearer Alternatives and Features

- A. ESSX® ISDN service Capability is provided through Bearer Alternatives and Features. Customers are required to subscribe to at least one Bearer Alternative Service. Features are available to increase the capability of the Bearer Alternative Service and may be subscribed to on an as needed basis. (N)
- B. B Channel Bearer Alternatives (N)
 1. Circuit Switched (B channel) Bearer Alternatives are usage sensitive switched services that offer up to 64 Kbps intra-office transmission for voice, data, or alternate voice and data transmission. (N)
 - a. Alternate Voice/Data - This option permits the customer to utilize either circuit voice or data transmission paths on a per call selection basis. Transmission on the B channel will be circuit switched at 64 Kbps within the switch and/or equipped facilities between ISDN compatible central offices. ISDN interconnection to non-ISDN equipped central offices will be potentially subjected to analog transmission or sub-rated to 56 Kbps. This option includes one directory number (DN) (N)

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.3 Service Bearer Alternatives and Features (Cont'd)

B. B Channel Bearer Alternatives (Cont'd)

1. (Cont'd)

b. Dedicated High Speed Packet Switched Data - This option permits the customer to establish packet data calls at speeds greater than 9.6 Kbps on the B channel. The service includes one data telephone number.

c. On-Demand High Speed Packet Switched Data - allows users to use a B channel for packet switching on demand. A B channel is allocated based on user preference and on B channel availability. The user competes with all other users on the BRI for access to the B channel (SESS only). The service includes one data telephone number.

C. D Channel Bearer Alternatives

1. Low Speed Packet Switched Data (LSPSD) - Allows packet data (X.25) to be transmitted up to 9.6 Kbps on the D channel. Service includes a data telephone number.¹

D. Features - Circuit Switched Voice

1. Inspect is used to retrieve and display call-related information about any call appearance that has a call associated with it. This could be the active call, a call on hold, or an alerting call. It includes time of day and date (SESS only).

2. Calling/Called Number Display, All - provides a user who is receiving/originating a call with information about the calling/called party and the facility or destination. It allows the calling/called DN to display for all terminals that share the same DN.⁴

3. ISDN Intercom (ICOM)

a. Automatic - allows the ISDN telephone to originate calls to a DN by using only the ICOM feature button.

b. Group (Dial) - allows the ISDN telephone to originate a call to a DN by pressing the ICOM feature button and dialing one or two digits.

4. Additional Call Appearance - allows the set to have more than one DN button assigned to the same DN

5. Non-Shared Secondary-Only DN - a secondary DN that appears on only one terminal.

6. Shared Non-ISDN DN - allows a Non-ISDN set to share calls with an ISDN set (SESS only)

7. Shared Primary DN - a primary DN that appears on more than one terminal

8. Shared Secondary-Only DN - a secondary DN that appears on more than one terminal but is not the primary DN on any of those terminals.

9. Manual Exclusion (Privacy) - allows a user to inhibit other stations in the same group from picking up a call on hold or bridging to a call that is active at that station.

10. Privacy Release (DMS only) - allows other stations to bridge into an existing call.

Note 1: Multiple packet calls can be active simultaneously by a user on a single D channel. Up to eight data terminals can be supported per Basic Rate Access.

Note 2: This is a mandatory feature in the DMS-100.

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.3 Service Bearer Alternatives and Features (Cont'd)

D. Features - Circuit Switched Voice (Cont'd)

11. Conference, Drop, Hold, Transfer

a. Conference - allows the set user to select an idle call appearance for the second leg of a three-way conference.

b. Drop - allows the set user to drop the last party added to a conference call. For a two-party call, pressing this button disconnects the set from the call.

c. Hold - allows the set user to place a call on hold by pressing the function button. Any set with the call appearance for the call on hold can pick up the call by pressing the call appearance button.

d. Transfer - allows the user to transfer a call to another DN in the customer group by pressing the transfer button, dialing the DN, and pressing the button again.

12. Additional appearance of a shared DN.

13. Voice features compatible with ISDN lines not defined in this document will be available and as indicated in A12.13 (Digital ESSX® service) of this Tariff.

E. Features - Circuit Switched Data

1. Circuit Switched Data Call Hunting (SESS) - allows multiline hunting with Circuit Switched Data Service Capability

F. Features and Parameters - X.25 Packet

1. X.25 Intercom Addressing (SESS) allows an ESSX® ISDN service subscriber to access other users on the same switch without using a full ten-digit address. If four-digit intercom dialing is selected, the user can address other customers on the switch whose addresses begin with the same Service Region and Service Area using only a four-digit end point address.

A12.18.4 Rates and Charges

A. The ESSX® ISDN service is associated with existing forms of exchange access which are Digital ESSX® service. These rates and charges are applicable in addition to the rates and charges for associated services and features.

B. ESSX® ISDN service Bearer Alternative Services will be available in combinations restricted by the limits of the Company central office type. The subscriber will choose the most appropriate combination(s) and will be billed the Required Bearer Alternative and Additional Options as needed.

C. ESSX® ISDN service will consist of the following components:

1. Digital ESSX® service Common Equipment¹

2. Basic Rate Digital Subscriber Line (DSL) Access Arrangement¹

3. ISDN Loop Access Mileage¹

4. ISDN Bearer Alternative Services¹

- Minimum of one and maximum of eight Bearer Services per Basic Rate DSL Access Arrangement

- Maximum of eight identifiable users with a maximum of two simultaneous channels in use per Basic Rate DSL Access Arrangement

5. Usage Charges¹

Note 1: Every system will include these components.

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.4 Rates and Charges (Cont'd)

C. ESSX® ISDN service will consist of the following components: (Cont'd)

6. Features

7. Network Access¹

D. Digital ESSX® service Common Equipment is required for all ESSX® ISDN service lines. Rates and charges for Digital ESSX® service Common Equipment are in addition to the charges in E. following.

1. Rates, charges, liabilities and additional regulations if applicable may be developed on an individual basis for Basic Rate DSL Access Arrangements provided through Subscriber Line Carrier and/or exceeding the metallic carrier serving area requirements.

E. ISDN Basic Rate Access Capability Charges

1. Basic Rate DSL Access Arrangement

	Installation Charge	Term Payment Plan Monthly Rate				USOC	
		1 Month	36 Months	60 Months	84 Months		
(a) Two-wire interface, low volume	\$170.00	\$21.00	\$19.50	\$19.00	\$18.50	LTU1X	(N)
(b) Two-wire interface, high volume (High Speed B Packet)	170.00	21.00	19.50	19.00	18.50	LTU2X	(N)
2. ISDN Loop Access Mileage							
(a) Up to 2 1/2 miles	-	7.60	7.25	7.05	6.95	1LDLN	(N)
3. Bearer Alternative Services							
a. B Channels							
(1) Alternative Voice and Data - For use with Mixed or Flat Rate Digital ESSX® service ²							
(a) Circuit Switched Voice/Data	8.00	3.70	3.55	3.50	3.45	LTQ8X	(N)
(b) Circuit Switched Voice/Data (shared DN) ³	8.00	3.70	3.55	3.50	3.45	AAQ8X	(N)
(2) Alternative Voice and Data - For use with all Measured Digital ESSX® service							
(a) Circuit Switched Voice/Data	8.00	1.70	1.55	1.50	1.45	LTQ8M	(N)
(b) Circuit Switched Voice/Data (Shared DN) ³	8.00	1.70	1.55	1.50	1.45	AAQ8M	(N)
Note 1: Every system will include these components.							(N)
Note 2: Mixed systems include hotel/motel or hospitals where a mix of flat and measured/message service is allowed.							(N)
Note 3: Shares DN with another bearer service on the same DSL.							(N)

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.4 Rates and Charges (Cont'd)

E. ISDN Basic Rate Access Capability Charges (Cont'd)

3. Bearer Alternative Services (Cont'd)

a. B Channels (Cont'd)

(3) Dedicated High Speed Packet Switched Data

	Installation Charge	Term Payment Plan Monthly Rate				USOC	
		1 Month	36 Months	60 Months	84 Months		
(a) Each channel (non-shared DN)	\$75.00	\$135.00	\$125.00	\$120.00	\$115.00	LTQ3X	(N)
(b) Each channel (shared DN) ¹	75.00	135.00	125.00	120.00	115.00	AAQ3X	(N)
(4) On-Demand High Speed Packet Switched Data (SESS only) ²							(N)
(a) Each terminal (non-shared DN)	75.00	130.00	120.00	115.00	110.00	LTQ7X	(N)
(b) Each terminal (shared DN) ¹	75.00	130.00	120.00	115.00	110.00	AAQ7X	(N)
b. D Channels							(N)
(1) Low Speed Packet Switched Data (D), per first identified user							(N)
(a) As single bearer service	35.00	9.50	9.20	9.10	9.00	LTQDX	(N)
(b) With a B channel service (non-shared DN)	35.00	9.50	9.20	9.10	9.00	LTQ4X	(N)
(c) With a B channel service (shared DN) ³	35.00	9.50	9.20	9.10	9.00	AAQ4X	(N)
(2) Low Speed Packet Switched Data (D), per each additional identified user							(N)
(a) Beyond (a), (b) or (c) preceding	35.00	7.40	7.20	7.10	7.00	LTG4X	(N)
(b) Beyond (a), (b) or (c) preceding (shared DN) ³	35.00	7.40	7.20	7.10	7.00	AAG4X	(N)
4. Usage							(N)
a. Packet Switching - Outside the Business Group							(N)
(1) Usage rates for packet services (both Low Speed and High Speed) are defined in PulseLink® service, Section A29, of this Tariff. Usage rates are applicable for transmission outside of the subscriber's system or outside the subscriber's serving central office.							(N)
Note 1: Shares DN with another bearer service on the same DSL.							(N)
Note 2: Requires at least one B-channel circuit switched voice/data on DSL.							(N)
Note 3: Shares DN with B-channel non-packet service.							(N)

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.4 Rates and Charges (Cont'd)

E. ISDN Basic Rate Access Capability Charges (Cont'd)

4. Usage (Cont'd)

b. Circuit Switching - Outside the Business Group

- (1) For fully Measured systems per minute usage rates, for all circuit switched services (voice and/or data) apply to the average local exchange use (rounded to the nearest second) and are defined in Section A3. of this Tariff. Usage rates are applicable for transmission outside of the subscriber's system or the subscriber's serving central office.

ESSX® ISDN service subscribers associated with Mixed or Flat Rate Digital ESSX® service will have a surcharge built into the rate for B-channel Circuit Switched Voice/Data in lieu of usage rates in Section A3. of this Tariff.

- (2) Charges for the inward delivery of calling number information (CNI) will be on a per call basis as follows:

(a) Per calling number delivered

<u>Charge</u>	<u>USOC</u>
<u>Per Call</u>	<u>NA</u>
<u>\$.0075</u>	<u>NA</u>

5. ESSX® ISDN Service Features are available on a per Alternative Bearer Service basis. Features associated with Digital ESSX® service are under the terms and conditions in A12.13 of this Tariff.

VOICE

Inspect

Calling/Called Number Display - All

ISDN Intercom

- Automatic

- Group Dial

Additional Call Appearance

Non-Shared Secondary Only Directory Number

Shared Non-ISDN Directory Number

Shared Primary Directory Number

Shared Secondary Only Directory Number

Privacy Release

Manual Exclusion (Privacy)

Conference, Drop, Hold and Transfer

Additional Appearance of a Shared Directory Number

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

A12.18.4 Rates and Charges (Cont'd)

E. ISDN Basic Rate Access Capability Charges (Cont'd)

5. (Cont'd)

DATA

- Circuit Switched Data Call Hunting
- X.25 Intercom Addressing

6. ISDN Capability Features

a. Rates for ISDN Capability Features - Circuit Switched Voice/Data Services

(1) Individual Features

	Term Payment Plan				USOC	
	Installation Charge	1 Month	36 Months	60 Months		
(a) <u>Inspect (SESS)</u>	\$20.00	\$20	\$15	\$10	\$5	DS1FA (N)
(b) <u>Calling/Called Number Display, all</u>	3.00	20	15	10	5	DS1FC (N)
(c) <u>ISDN Intercom, automatic</u>	10.00	20	15	10	5	DS1FD (N)
(d) <u>ISDN Intercom, group</u>	10.00	20	15	10	5	DS1FE (N)
(e) <u>Per Additional Call Appearance</u>	10.00	20	15	10	5	DS1FG (N)
(f) <u>Non-Shared Secondary-Only DN</u>	1.20	20	15	10	5	DS1FH (N)
(g) <u>Shared Non-ISDN DN (SESS)</u>	.50	20	15	10	5	DOE (N)
(h) <u>Shared Primary DN</u>	1.20	40	30	25	20	DS1FJ (N)
(i) <u>Shared Secondary-Only DN</u>	1.20	20	15	10	5	DS1FK (N)
(j) <u>Manual Exclusion (SESS)</u>	7.00	20	15	10	5	DS1FM (N)
(k) <u>Privacy Release (DMS)</u>	1.20	20	15	10	5	DS1FU (N)
(l) <u>Conference, Drop, Hold, Transfer</u>	1.00	1.40	1.10	1.00	.95	DS1FM (N)
(m) <u>Additional appearance of a Shared DN</u>	1.00	20	15	10	5	DS1A8 (N)
7. Feature Administration Charges						(N)
a. Charges for Multi-button ISDN features will be based on the total number of configuration groups or terminals programmed.						(N)
(1) Programmable Buttons						(N)
(a) <u>Per configuration group (SESS)</u>	15.00	-	-	-	-	DS1A1 (N)
(b) <u>Per terminal (DMS)</u>	.50	-	-	-	-	DS1A2 (N)
8. Circuit Switched Data Call Hunting (SESS)						(N)
(a) <u>Each</u>	2.50	20	15	10	5	HTGSD (N)

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A12. CENTRAL OFFICE NON-TRANSPORT SERVICE OFFERINGS

A12.18 ESSX® ISDN Service (Cont'd)

(N)

A12.18.4 Rates and Charges (Cont'd)

(N)

E. ISDN Basic Rate Access Capability Charges (Cont'd)

(N)

9. X.25 Intercom Addressing (5ESS)

(N)

(a) Each

Installation	Term Payment Plan				USOC	(N)
	Monthly Rate					
Charge	1 Month	36 Months	60 Months	84 Months		
\$-	\$-	\$-	\$-	\$-	NA	

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