

- (9) Access to Rights of Way - Section 251(b)(4) of the Act (Section 15.0 of this Agreement); or
- (10) White Pages - Section 271(c)(2)(B)(viii) of the Act (Appendix White Pages).

28.17 Joint Work Product. This Agreement is the joint work product of the Parties and has been negotiated by the Parties and their respective counsel and shall be fairly interpreted in accordance with its terms and, in the event of any ambiguities, no inferences shall be drawn against either Party.

28.18 No Third Party Beneficiaries; Disclaimer of Agency. This Agreement is for the sole benefit of the Parties and their permitted assigns, and nothing herein express or implied shall create or be construed to create any third-party beneficiary rights hereunder. Except for provisions herein expressly authorizing a Party to act for another, nothing in this Agreement shall constitute a Party as a legal representative or agent of the other Party, nor shall a Party have the right or authority to assume, create or incur any liability or any obligation of any kind, express or implied, against or in the name or on behalf of the other Party unless otherwise expressly permitted by such other Party. Except as otherwise expressly provided in this Agreement, no Party undertakes to perform any obligation of the other Party, whether regulatory or contractual, or to assume any responsibility for the management of the other Party's business.

28.19 No License. No license under patents, copyrights or any other intellectual property right (other than the limited license to use consistent with the terms, conditions and restrictions of this Agreement) is granted by either Party or shall be implied or arise by estoppel with respect to any transactions contemplated under this Agreement.

28.20 Technology Upgrades. Nothing in this Agreement shall limit either Party's ability to upgrade its network through the incorporation of new equipment, new software or otherwise. Each Party shall provide the other Party written notice at least ninety (90) days prior to the incorporation of any such upgrades in its network which will materially impact the other Party's service. The Party upgrading its network shall be solely responsible for the cost and effort of accommodating such changes in its own network.

28.21 Survival. The Parties' obligations under this Agreement which by their nature are intended to continue beyond the termination or expiration of this Agreement shall survive the termination or expiration of this Agreement, including without limitation, Sections 20.5, 21.0, 24.0, 25.0, 28.2.3, 28.6, 28.12, 28.13, 28.15 and 28.20.

28.22 Scope of Agreement. This Agreement is intended to describe and enable specific Interconnection and compensation arrangements between the Parties. This Agreement does not obligate either Party to provide arrangements not specifically provided herein.

28.23 Entire Agreement. The terms contained in this Agreement and any Schedules, Exhibits, Appendices, tariffs and other documents or instruments referred to herein, which are incorporated into this Agreement by this reference, constitute the entire agreement between the Parties with respect to the subject matter hereof, superseding all *prior* understandings, proposals and other communications, oral or written. Neither Party shall be bound by any preprinted terms additional to or different from those in this Agreement that may appear subsequently in the other Party's form documents, purchase orders, quotations, acknowledgments, invoices or other communications. This Agreement may only be modified by a writing signed by an officer of each Party.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of this 16th day of July, 1996.

MFS Communications Company, Inc.

Southwestern Bell Telephone Company

By: Alex J. Harris / by Susan Schultz

By: [Signature]

Printed: Alex J. Harris

Printed: Stephen Carter

Title: Vice President, Regulatory

Title: Vice President-General Manager
(Special Marketers)

SCHEDULE 1.0

CERTAIN TERMS AS DEFINED IN THE ACT AS OF JULY 16, 1996

"Affiliate" means a person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, another person. For purposes of this paragraph, the term "own" means to own an equity interest (or the equivalent thereof) of more than ten percent (10%).

"Dialing Parity" means that a person that is not an Affiliate of LEC is able to provide Telecommunications Services in such a manner that Customers have the ability to route automatically, without the use of any access code, their Telecommunications to the Telecommunications Services provider of the Customer's designation from among two (2) or more Telecommunications Services providers (including such LEC).

"Exchange Access" means the offering of access to Telephone Exchange Services or facilities for the purpose of the origination or termination of Telephone Toll Services.

"InterLATA" means Telecommunications between a point located in a local access and transport area and a point located outside such area.

"Local Access and Transport Area" or "LATA" means a contiguous geographic area: (a) established before the date of enactment of the Act by a Bell operating company such that no Exchange Area includes points within more than one (1) metropolitan statistical area, consolidated metropolitan statistical area, or State, except as expressly permitted under the AT&T Consent Decree; or (b) established or modified by a Bell operating company after such date of enactment and approved by the FCC.

"Local Exchange Carrier" means any person that is engaged in the provision of Telephone Exchange Service or Exchange Access. Such term does not include a person insofar as such person is engaged in the provision of a commercial mobile service under Section 332(c) of the Act, except to the extent that the FCC finds that such service should be included in the definition of such term.

"Network Element" means a facility or equipment used in the provision of a Telecommunications Service. Such term also includes features, functions, and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection or used in the transmission, routing, or other provision of a Telecommunications Service.

"Number Portability" means the ability of end users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another.

"Telecommunications" means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

"Telecommunications Carrier" means any provider of Telecommunications Services, except that such term does not include aggregators of Telecommunications Services (as defined in Section 226 of the Communications Act).

"Telecommunications Service" means the offering of Telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.

"Telephone Exchange Service" means (a) service within a telephone exchange or within a connected system of telephone exchanges within the same exchange area operated to furnish subscribers intercommunicating service of the character ordinarily furnished by a single exchange, and which is covered by the exchange service charge, or (b) comparable service provided through a system of switches, transmission equipment, or other facilities (or combination thereof) by which a subscriber can originate and terminate a telecommunications service.

"Telephone Toll Service" means telephone service between stations in different exchange areas for which there is made a separate charge not included in contracts with subscribers for exchange service.

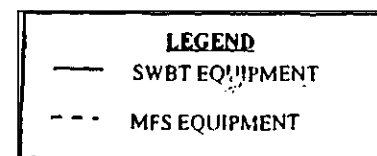
Schedule 3.0

Metropolitan Exchange <u>Area</u>	MFS Interconnection Wire Center <u>MIWC</u>	SWBT Interconnection Wire Center <u>SIWC</u>	<u>NIP</u> ¹	Interconnection <u>Activation Date</u>
ST. LOUIS	STLTMOBODS0	STLSMO21	STLSMO21 STLSMOBODS0	12/15/96

'NETWORK INTERCONNECTION POINT (NIP) - The NIP is the location where SWBT and MFS facilities connect. The NIP will be identified by address and V&H Coordinates. The NIP for traffic going from MFS to SWBT and going from SWBT to MFS could be different. Where the physical interface occurs at a SWBT end office or tandem, the NIP shall be located at the SIWC. Where the physical interface occurs at the MFS location, the NIP for that interconnection shall be located at the MIWC location.

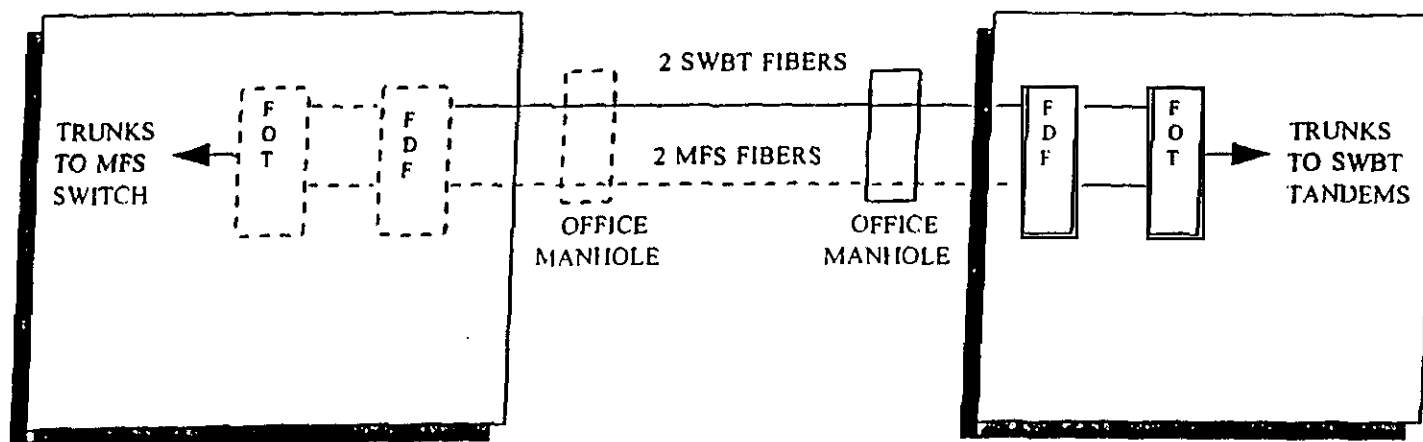
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MFS/SWBT INTERCONNECTION
ARCHITECTURE
ST. LOUIS METROPOLITAN
AREA



STLTMOBODS0 - MFS OFFICE

STLSMO21 - SWBT OFFICE



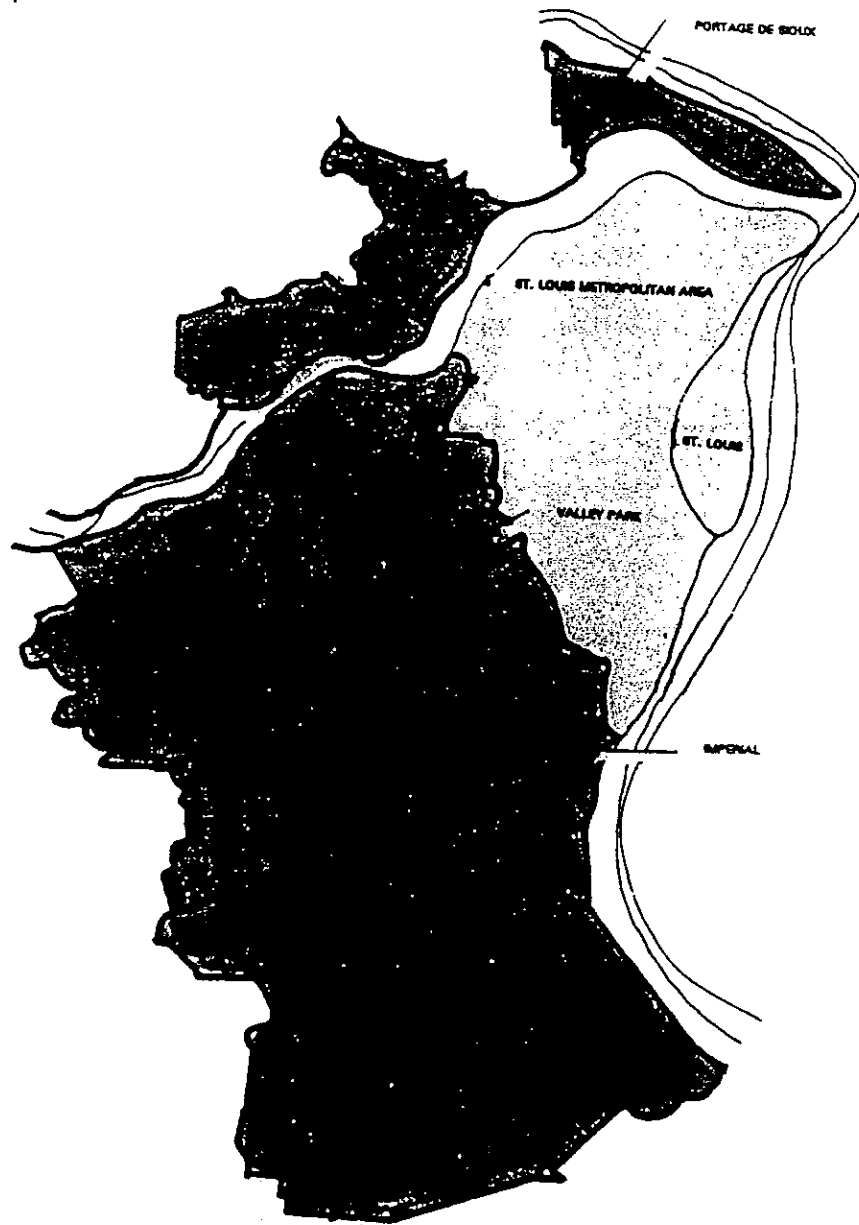
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SCHEDULE 5.0

Optional EAS Traffic rates apply to calls to and from the St. Louis exchange and the following exchanges:

Antonio
Cedar Hill
Chesterfield
Crystal City
Desoto
Eureka
Fenton
Festus
Gray Summit
Harvester
Herculaneum
High Ridge
Hillsboro
Imperial
Manchester
Maxville
Pacific
Pevely
Pond
Portage De Sioux
St. Charles
Valley Park
Ware

St. Louis
Metropolitan Calling Area



Local Interconnection



Extended Area Interconnection



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PRICING SCHEDULE - MISSOURI

I. Reciprocal Compensation

Local Rate = \$0.009 per minute

Optional Extended Area Service (EAS) Rate = \$0.0160 per minute

II. Feature Group A

SWBT

Rates found in FCC Tariff No. 73
and in Section 6 of the Missouri
intrastate access tariff.

MFS

Same rates as SWBT's.

III. LSV/BLI Traffic

Rate = \$0.75 per Line Status Verification

\$1.50 per Busy Line Interrupt (includes LSV)

IV. Transiting

Rate = \$0.003 per minute

V. Interim Number Portability - Missouri

1. Recurring Charges

A. Basic Rate

\$2.10 per ported number, per month for a total of five (5) paths.

\$0.10 for for each additional path over five (5) paths.

B. EAS Surcharge

\$12.40 (in addition to rate in A. above)

2. Non-Recurring Charges

A. Per Line Service Order Charge: \$ 14.50

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\$10,000 per NXX

Voice Grade:

DS1:

\$0.01/Month

\$110 Per Group/Central Office

\$1.70

²If MFS elects to submit volume service orders, directly or indirectly, via magnetic tape or other agreed medium, a one-time charge of \$4,100 for initial programming shall apply.

Meet-Point Billing Arrangement Revenue Assignment Schedule

INTERSTATE ACCESS REVENUE ASSIGNMENT

<u>Rate Element</u>	<u>IXCs Connected to SWBT Tandem; Calls Terminating To or Originating From MFS End Users</u>
Carrier Common Line	MFS
Local Switching	MFS
Interconnection Charge	MFS
Local Transport Termination	50% of SWBT Rate and 50% of MFS's Rate
Local Transport Facility	Based on Negotiated Billing Percentage (BIP)**
Tandem Switching Entrance Facility	SWBT SWBT

INTRASTATE ACCESS REVENUE ASSIGNMENT

<u>Rate Element</u>	<u>IXCs Connected to SWBT Tandem; Calls Terminating To or Originating From MFS End Users</u>
Carrier Common Line	MFS
Local Switching	MFS
Interconnection Charge*	MFS
Local Transport* Termination	50 % of SWBT Rate and 50% of MFS's Rate
Local Transport Facility	Based on Negotiated Billing Percentage (BIP)**
Tandem Switching Entrance Facility	SWBT SWBT

*If the rate element is applicable on an Intrastate basis.

**The billing percentage (BIP) for the local transport facility will be calculated using NECA 4 Guidelines and MECAB Guidelines.

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EXHIBIT A

NETWORK ELEMENT BONA FIDE REQUEST

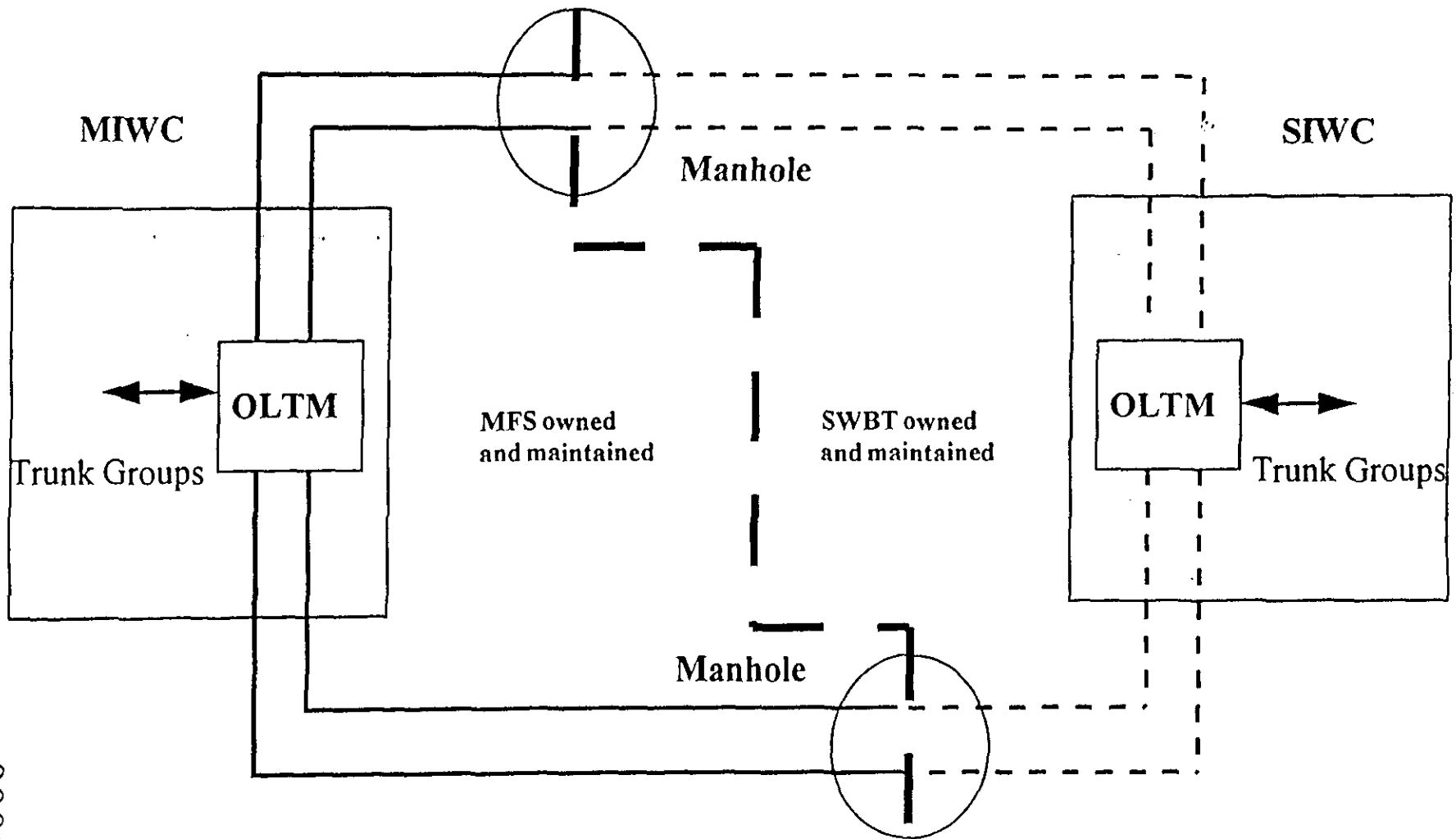
1. Each Party shall promptly consider and analyze access to a new unbundled Network Element with the submission of a Network Element Bona Fide Request hereunder. The Network Element Bona Fide Request process set forth herein does not apply to those services requested pursuant to Report & Order and Notice of Proposed Rulemaking 91-141 (rel. Oct. 19, 1992) ¶ 259 and n. 603 and subsequent rulings.
2. A Network Element Bona Fide Request shall be submitted in writing and shall include a technical description of each requested Network Element, the date when interconnection is requested and the projected quantity of interconnection points ordered with a demand forecast.
3. The requesting Party may cancel a Network Element Bona Fide Request at any time, but shall pay the other Party's reasonable and demonstrable costs of processing and/or implementing the Network Element Bona Fide Request up to the date of cancellation.
4. Within ten (10) business days of its receipt, the receiving Party shall acknowledge receipt of the Network Element Bona Fide Request.
5. Except under extraordinary circumstances, within thirty (30) days of its receipt of a Network Element Bona Fide Request, the receiving Party shall provide to the requesting Party a preliminary analysis of such Network Element Bona Fide Request. The preliminary analysis shall confirm that the receiving Party will offer access to the Network Element or will provide a detailed explanation that access to the Network Element is not technically feasible and/or that the request does not qualify as a Network Element that is required to be provided under the Act.
6. If the receiving Party determines that the Network Element Bona Fide Request is technically feasible and otherwise qualifies under the Act, it shall promptly proceed with developing the Network Element Bona Fide Request upon receipt of written authorization from the requesting Party. When it receives such authorization, the receiving Party shall promptly develop the requested services, determine their availability, calculate the applicable prices and establish installation intervals.
7. Unless the Parties otherwise agree, the Network Element Bona Fide Request must be priced in accordance with Section 252(d)(1) of the Act.
8. As soon as feasible, but not more than ninety (90) days after its receipt of authorization to proceed with developing the Network Element Bona Fide Request, the receiving Party shall provide to the requesting Party a Network Element Bona Fide Request quote which will include, at a minimum, a description of each Network Element, the availability, the applicable rates and the installation intervals.

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9. Within thirty (30) days of its receipt of the Network Element Bona Fide Request quote, the requesting Party must either confirm its order for the Network Element Bona Fide Request pursuant to the Network Element Bona Fide Request quote or seek arbitration by the Commission pursuant to Section 252 of the Act.

10. If a Party to a Network Element Bona Fide Request believes that the other Party is not requesting, negotiating or processing the Network Element Bona Fide Request in good faith, or disputes a determination, or price or cost quote, such Party may seek mediation or arbitration by the Commission pursuant to Section 252 of the Act.

Exhibit B: MFS/SWBT Fiber Meet



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EXHIBIT C

TRUNK GROUP CONFIGURATION AND TRAFFIC ROUTING

This Exhibit prescribes parameters for all trunk groups to be configured between the Parties pursuant to this Agreement. Unless otherwise specifically agreed, all trunks described herein shall be configured over the Interconnections specified in Section 4.0 of this Agreement, with each Party provisioning its portion of the trunks to its IWC. The following trunk groups are described herein and depicted in the attached Scenarios:

- Traffic Exchange trunks
- Access Toll Connecting trunks
- LSV/BLI Operator trunks
- E911 CAMA trunks
- Directory Assistance trunks

I. TRAFFIC EXCHANGE TRUNKS (See also Section 5.0)

The Parties shall establish Traffic Exchange trunk groups between their networks for the transmission and termination of Local and IntraLATA Toll calls between their respective Telephone Exchange Service end users. Traffic Exchange trunk groups shall utilize SS7 protocol signaling as prescribed in Section 8.0.

Switching System Hierarchy

In reference to the configuration of Traffic Exchange trunk groups only, each of the following Central Office Switches shall be designated as a "Primary Switch":

- (a) Each Local Tandem, each Access Tandem, and each Combined Local/Access Tandem SWBT employs or may employ in order to provide Telephone Exchange Service or Exchange Access Service within a Metropolitan Exchange Area;
- (b) The initial switch MFS employs to provide Telephone Exchange Service in a Metropolitan Exchange Area;
- (c) Each Local Tandem, each Access Tandem, and each Combined Local/Access Tandem MFS employs or may employ to provide Telephone Exchange Service or Exchange Access Service within a Metropolitan Exchange Area; and
- (d) Any other switch MFS may employ to provide Telephone Exchange Service or Exchange Access Service within that Metropolitan Exchange

Area which MFS may at its sole option designate as a Primary Switch; provided that the total number of MFS Primary Switches for a Metropolitan Exchange Area may not exceed the total number of SWBT Primary Switches for a Metropolitan Exchange Area. To the extent MFS chooses to designate any additional switch as a Primary Switch, it shall provide notice to SWBT of such designation at least ninety (90) days in advance of the date on which MFS activates such switch as a Primary Switch.

For purposes of MFS routing traffic to SWBT, sub-tending arrangements between SWBT Primary Switches and other SWBT switches shall be the same as the Tandem/End Office sub-tending arrangements which SWBT maintains for those switches. For purposes of SWBT routing traffic to MFS, sub-tending arrangements between MFS Primary Switches and other MFS switches shall be the same as the Tandem/End Office sub-tending arrangements which MFS maintains for those switches.

Separate Traffic Exchange Trunk Groups

- A. The Parties shall at all times maintain separate Traffic Exchange trunk groups connecting each MFS Primary Switch to each SWBT Primary Switch in each Metropolitan Exchange Area identified in Schedule 3.0.
- B. When either Party maintains separate Access and Local Tandem switches in a Metropolitan Exchange Area, a separate Traffic Exchange trunk group for Local Traffic shall be provided to the Local Tandem and a separate Traffic Exchange trunk group for IntraLATA Toll Traffic shall be provided to the Access Tandem.
- C. Where both Parties employ combined Local/Access tandems, or where SWBT employs a combined Local/Access Tandem and MFS employs an initial End Office Switch or combined End Office/Tandem switch as its Primary switch, Local and IntraLATA Toll Traffic shall be combined over the Traffic Exchange trunk group.
- D. In accordance with the trunk engineering rules in the Joint Grooming Plan, the Parties shall establish direct primary high usage Traffic Exchange trunk groups for Local and IntraLATA Toll Traffic between their other switches over the Interconnections prescribed in Section 4.0. Each Party shall provision the trunks from its IWC.

Interim Use of One-Way Trunks

The Parties shall initially configure all Traffic Exchange Trunk groups as separate one-way trunk groups.

The designated traffic type, use code and modifier for each one-way Traffic Exchange trunk group is listed in the chart below.

One-Way Traffic Exchange Trunk Groups Carrying Traffic From MES to SWBT

<u>Connecting Between</u>		<u>Traffic Type</u>	<u>Code & Mod</u>	<u>Scenario</u>
<u>MES Switch</u>	<u>SWBT Switch</u>			
Combined Local/Access Tandem	Combined Local/Access Tandem	Local/IntraLATA Toll	DDJ	1, 2
"	Access Tandem	IntraLATA Toll Only	DDJ	3, 4
"	Local Tandem	Local Only	TOJ	3, 4
"	End Office	Local/IntraLATA Toll	IEG	2, 4
Access Tandem	Combined Local/Access Tandem	IntraLATA Toll Only	*	*
"	Access Tandem	IntraLATA Toll Only	*	*
"	Local Tandem	N/A	*	*
"	End Office	IntraLATA Toll Only	*	*
Local Tandem	Combined Local/Access Tandem	Local Only	*	*
"	Access Tandem	N/A	*	*
"	Local Tandem	Local Only	*	*
"	End Office	Local Only	*	*
End Office	Combined Local/Access Tandem	Local/IntraLATA Toll	DDJ	1, 2
"	Access Tandem	IntraLATA Toll Only	DDJ	3, 4
"	Local Tandem	Local Only	TOJ	3, 4
"	End Office	Local/IntraLATA Toll	TEJ, IEJ	2, 4

* To be determined.

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One-Way Traffic Exchange Trunk Groups Carrying Traffic From SWBT to MFS

<u>Connecting Between</u>		<u>Traffic Type</u>	<u>Code & Mod</u>	<u>Scenario</u>
<u>SWBT Switch</u>	<u>MFS Switch</u>			
Combined Local/Access Tandem	Combined Local/Access Tandem	Local/IntraLATA Toll	TCJ	1, 2
"	Access Tandem	IntraLATA Toll Only	*	*
"	Local Tandem	Local Only	*	*
"	End Office	Local/IntraLATA Toll	TCJ	1, 2
Access Tandem	Combined Local/Access Tandem	IntraLATA Toll Only	TCJ	3, 4
"	Access Tandem	IntraLATA Toll Only	*	*
"	Local Tandem	N/A	*	*
"	End Office	IntraLATA Toll Only	TCJ	3, 4
Local Tandem	Combined Local/Access Tandem	Local Only	TGJ	3, 4
"	Access Tandem	N/A	*	*
"	Local Tandem	Local Only	*	*
"	End Office	Local Only	TGJ	3, 4
End Office	Combined Local/Access Tandem	Local/IntraLATA Toll	IEJ	2, 4
"	Access Tandem	IntraLATA Toll Only	*	*
"	Local Tandem	Local Only	*	*
"	End Office	Local/IntraLATA Toll	TEJ, IEJ	2, 4

* To be determined.

The Parties agree that two-way trunking is the long term preferred architecture and shall use their best efforts to mutually agree on a schedule for conversion to two-way trunks within a reasonable period of time, not to exceed twelve (12) months from the Interconnection Activation Date.

Mass Calling (Public Response Choke Network)

The Parties shall establish a segregated trunk group from each MFS Primary Switch to the designated SWBT Public Response Choke Network tandem in each Metropolitan Exchange Area. This trunk group shall be one-way only (from MFS to SWBT) and shall utilize Multi-Frequency (MF) signaling. It is recommended that this trunk group be sized as follows:

< 15001 access lines (AC)	2 trunks (min)
15001 to 25000 AC	3 trunks
25001 to 50000 AC	4 trunks
50001 to 75000 AC	5 trunks
> 75000 AC	6 trunks (max)

The traffic use code and modifier for this trunk group shall be TOCRJ (see Scenario 1, 2, 3 or 4).

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II. ACCESS TOLL CONNECTING TRUNKS (See also Section 6.0)

- A. Each Access Toll Connecting Trunk Group shall be two-way utilizing SS7 protocol signaling and shall connect an End Office or Tandem Switch MFS utilizes to provide Telephone Exchange Service and Switched Exchange Access in a given Metropolitan Exchange Area to an Access Tandem Switch SWBT utilizes to provide Switched Exchange Access in such Metropolitan Exchange Area.
- B. Where required, MFS and SWBT shall establish a separate one-way Access Toll Connecting Trunk Group utilizing Multi-Frequency (MF) signaling for traffic directed to or from Interexchange Carriers that use MF signaling between the Interexchange Carrier's switch and SWBT's Access Tandem.

The traffic use code and modifier for Access Toll Connecting Trunk Groups shall be MDJ (see Scenario 1, 2, 3, or 4).

III. 800 (888) TRAFFIC

At MFS's option, SWBT will handle 800/888 database queries for all non-MFS 800/888 numbers. These originating 800/888 service queries will be routed over the Access Toll Connecting Trunk (MDJ) group. This traffic will include both InterLATA 800/888 service and IntraLATA 800/888 service that will be identified and segregated by carrier through the database query handled through the SWBT tandem switch. In the event MFS chooses to handle its own 800/888 database queries, a separate trunk group from MFS to SWBT will be required for IntraLATA 800/888 service. The purpose of the separate trunk group is to provide for the segregation of MFS originating 800/888 IntraLATA traffic from other IntraLATA call volumes to ensure the proper billing of intercompany settlement compensation. The trunk group shall be set up as one-way (from MFS to SWBT) and utilize SS7 protocol signaling. The traffic use code and modifier for this trunk group shall be DD800J (see Scenario 1, 2, 3 or 4).

IV. LSV/BLVI OPERATOR TRUNKS (See also Section 7.2)

In each Metropolitan Exchange Area listed in Schedule 3.0, the Parties shall configure an LSV/BLI trunk group between SWBT's TOPS Tandem switch serving such area and the MFS switch which MFS has designated as its operator switch (TTC) serving that area, for the completion of LSV/BLI or other inward operator assisted calls between their networks. The LSV/BLI trunk group shall be wholly separate from all other trunk groups provided for under this Agreement, shall be two-way and shall utilize MF signaling. The traffic use code and modifier for the LSV/BLI trunk group shall be OAJ (Scenario 6). The Parties' operators shall route all LSV/BLI calls between their networks over the OAJ trunk group.

V. E911 CAMA TRUNKS (See also Section 7.5)

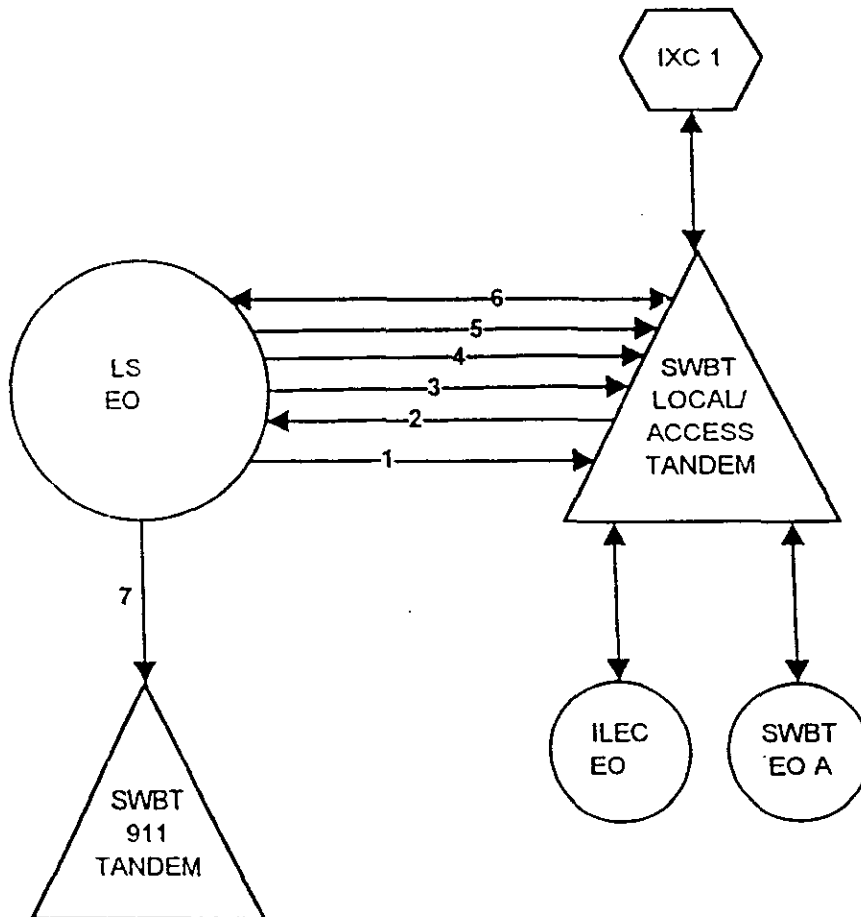
The Parties shall establish a segregated trunk group from MFS's network to each appropriate E911 tandem within each Metropolitan Exchange Area listed in Schedule 3.0. This trunk group shall be set up as a one-way (from MFS to SWBT) only and shall utilize Multi-Frequency (MF) Centralized Automated Message Accounting (CAMA) signaling. The traffic use code and modifier for this trunk group shall be ESJ (see Scenario 1, 2, 3 or 4).

VI. DIRECTORY ASSISTANCE TRUNKS (See also Section 7.6)

- A. To the extent MFS utilizes SWBT-provided DA services, the Parties shall establish a segregated trunk group from MFS's network to SWBT's TOPS tandem. This trunk group shall be set up as one-way (from MFS to SWBT) only and utilize MF and Operator Services signaling. The traffic use code and modifier for this trunk group shall be DAJ (see Scenario 5).
- B. To the extent MFS utilizes SWBT-provided DA service, MFS may also contract for Directory Assistance Call Completion (DACC) on DA calls handled by SWBT. Should MFS choose to contract for SWBT-provided DACC, the one-way (from MFS to SWBT) only MF trunk group specified above shall be employed, but the traffic use code and modifier for this trunk group shall be redesignated as DACCJ (see Scenario 5).

SCENARIO 1

SINGLE RATE AREA - COMBINED SWBT LOCAL/ACCESS TANDEM WITHOUT DIRECT END OFFICE, ILEC OR IXC TRUNKING



TRAFFIC USE/MODIFIER

<u>TRAFFIC USE/MODIFIER</u>	<u>DESCRIPTION</u>
1. DDJ	INTRALATA AND LOCAL (SS7 SIGNALING)
2. TCJ	INTRALATA AND LOCAL (SS7 SIGNALING)
3. TOCRJ	MASS CALLING (MF SIGNALING)
4. DD800J	INTRALATA 800 (MAXIMIZER 800)(SS7 SIGNALING) #
5. MDJ	INTERLATA ONLY (MF SIGNALING) @
6. MDJ	INTERLATA ONLY (SS7 SIGNALING)
7. ESJ	EMERGENCY SERVICE (MF SIGNALING)

@ Required at the Dallas 4 ESS switch only for 10XXXX # cut through and Feature Group B over D.

Required if SWBT does not perform the database query for the LSP.

Proprietary

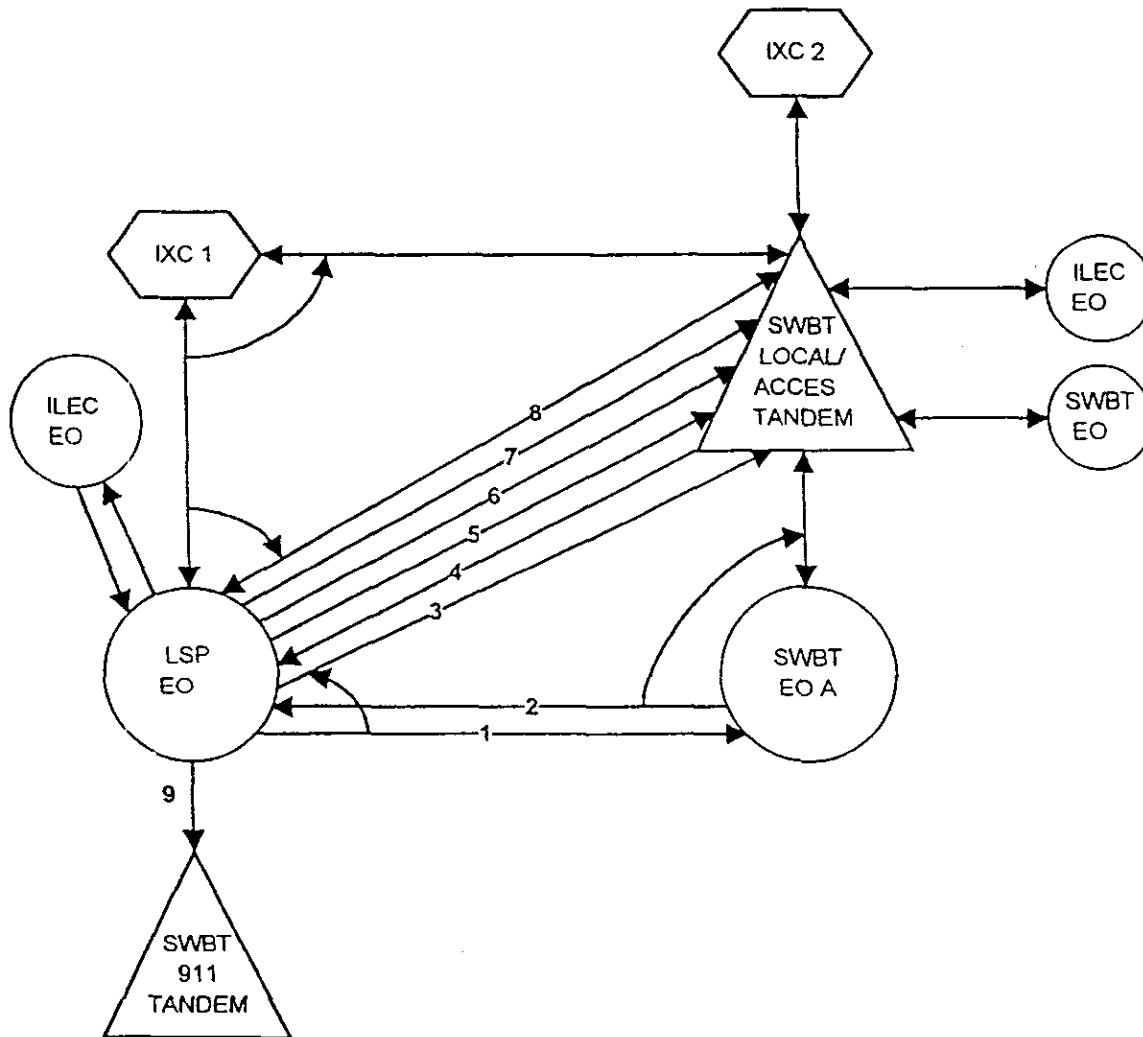
Not for Use or Disclosure Outside the Southwestern Bell Corporation
Family of Companies Except Under Written Agreement.

Revised 7/1/96

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SCENARIO 2

SINGLE RATE AREA - COMBINED SWBT LOCAL/ACCESS TANDEM WITH SOME DIRECT END OFFICE, ILEC AND IXC TRUNKING



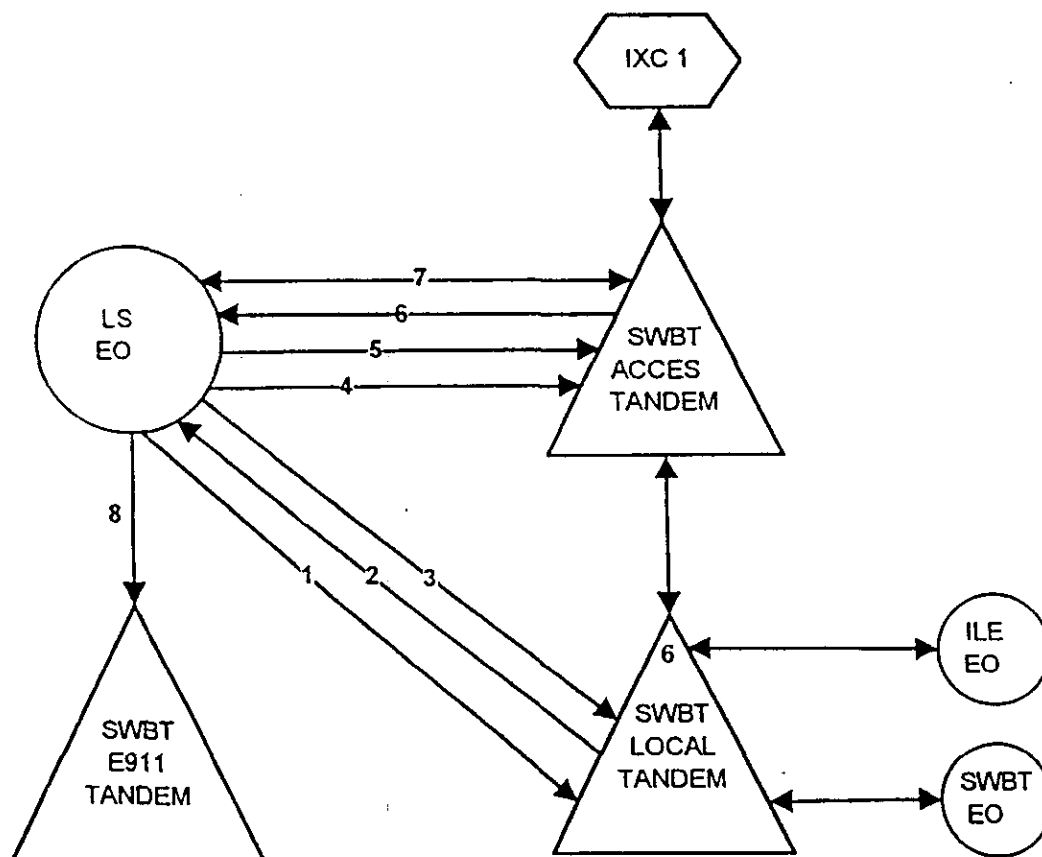
TRAFFIC USE/MODIFIER	DESCRIPTION
1. TEJ	INTRALATA AND LOCAL (SS7 SIGNALING)
2. TEJ	INTRALATA AND LOCAL (SS7 SIGNALING)
3. DDJ	INTRALATA AND LOCAL (SS7 SIGNALING)
4. TCJ	INTRALATA AND LOCAL (SS7 SIGNALING)
5. TOCRJ	MASS CALLING (MF SIGNALING)
6. DD800J	INTRALATA 800 (MAXIMIZER 800) (SS7 SIGNALING) #
7. MDJ	INTERLATA ONLY (MF SIGNALING) @
8. MDJ	INTERLATA ONLY (SS7 SIGNALING)
9. ESJ	EMERGENCY SERVICE (MF SIGNALING)

@ Required at the Dallas 4 ESS switch only for 10XXXX # cut through and Feature Group B over D

Required if SWBT does not perform the database query for the LSP.

SCENARIO 3

**SINGLE RATE AREA - SEPARATE SWBT LOCAL AND ACCESS
TANDEM WITHOUT DIRECT END OFFICE, ILEC OR IXC TRUNKING**

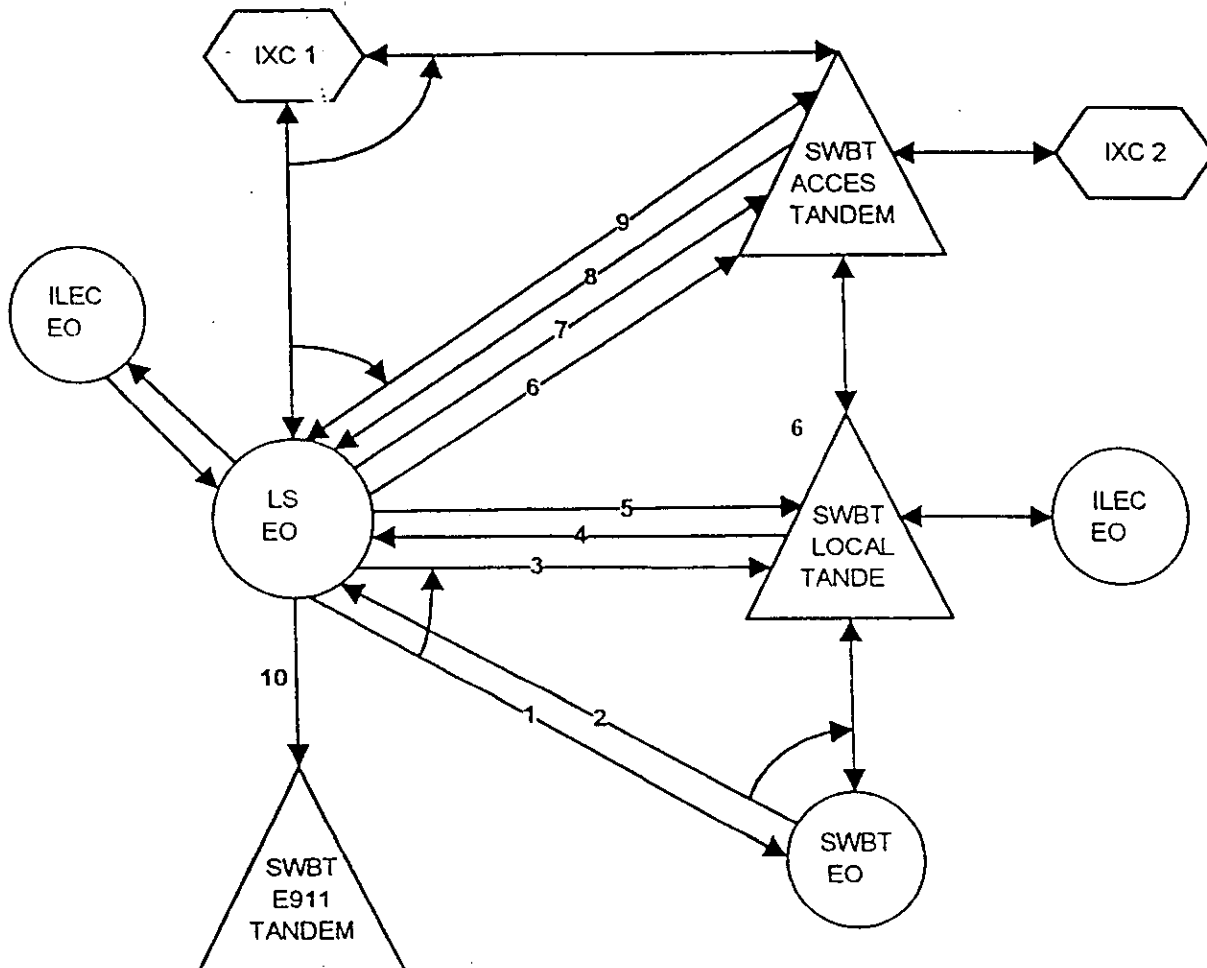


<u>TRAFFIC USE/MODIFIER</u>	<u>DESCRIPTION</u>
1. TOJ	LOCAL ONLY (SS7 SIGNALING)
2. TGJ	LOCAL ONLY (SS7 SIGNALING)
3. TOCRJ	MASS CALLING (MF SIGNALING)
4. DD800J	INTRALATA 800 (MAXIMIZER 800) (SS7 SIGNALING) #
5. DDJ	INTRALATA ONLY (SS7 SIGNALING)
6. TCJ	INTRALATA ONLY (SS7 SIGNALING)
7. MDJ	INTERLATA ONLY (SS7 SIGNALING)
8. ESJ	EMERGENCY SERVICE (MF SIGNALING)

Required if SWBT does not perform the database query for the LSP.

SCENARIO 4

SINGLE RATE AREA - SEPARATE SWBT LOCAL AND ACCESS TANDEMS WITH SOME DIRECT END OFFICE, ILEC AND IXC TRUNKING



TRAFFIC USE/MODIFIER	DESCRIPTION
1. IEJ	LOCAL ONLY (SS7 SIGNALING)
2. IEJ	LOCAL ONLY (SS7 SIGNALING)
3. TOJ	LOCAL ONLY (SS7 SIGNALING)
4. TGJ	LOCAL ONLY (SS7 SIGNALING)
5. TOCRJ	MASS CALLING (MF SIGNALING)
6. DD800J	INTRALATA 800 (MAXIMIZER 800) (SS7 SIGNALING) #
7. DDJ	INTRALATA ONLY (SS7 SIGNALING)
8. TCJ	INTRALATA ONLY (SS7 SIGNALING)
9. MDJ	INTERLATA ONLY (SS7 SIGNALING)
10. ESJ	EMERGENCY SERVICE (MF SIGNALING)

Required if SWBT does not perform database query for the LSP

Proprietary

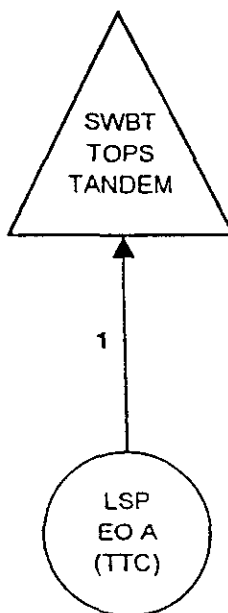
Not for Use or Disclosure Outside the Southwestern Bell Corporation
Family of Companies Except Under Written Agreement.

Revised 6/17/96

000078

SCENARIO 5

SINGLE RATE AREA - COMBINED SWBT LOCAL/ACCESS TANDEM
WHERE SWBT IS THE OPERATOR SERVICES DIRECTORY ASSISTANCE/
DIRECTORY ASSISATNCE CALL COMPLETION PROVIDER FOR THE LSP



<u>TRAFFIC USE/MODIFIER</u>	<u>DESCRIPTION</u>
1. DAJ OR DACCJ	DIRECTORY ASSISTANCE/DIRECTORY ASSISTANCE CALL COMPLETION (MF SIGNALING, OPERATOR SERVICES SIGNALING)

Proprietary

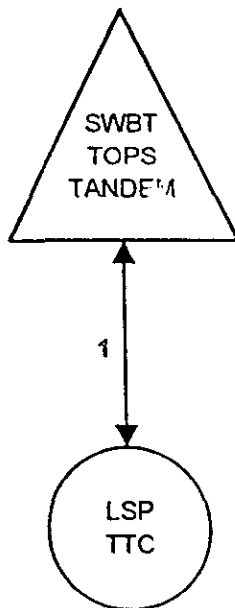
Not for Use or Disclosure Outside the Southwestern Bell Corporation
Family of Companies Except Under Written Agreement.

Revised 7/1/96

000079

SCENARIO 6

**SINGLE RATE AREA - COMBINED SWBT LOCAL/ACCESS TANDE
WHERE SWBT IS NOT THE OPERATOR SERVICES PROVIDER
FOR THE LSP AND THE LSP'S SWITCH IS THE DESIGNATE
OPERATOR SWITCH (TTC) FOR 121 INWARD ASSISTANCE**



<u>TRAFFIC USE/MODIFIER</u>	<u>DESCRIPTION</u>
1. OAJ	ACCESS TO INWARD OPERATOR (121) (MF SIGNALING)

****Proprietary****

Not for Use or Disclosure Outside the Southwestern Bell Corporation
Family of Companies Except Under Written Agreement.

Revised 7/1/96

000080

EXHIBIT D

PHYSICAL COLLOCATION AGREEMENT

BETWEEN

SOUTHWESTERN BELL TELEPHONE COMPANY

AND

[LEGAL NAME]

000081

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PHYSICAL COLLOCATION AGREEMENT

THIS PHYSICAL COLLOCATION AGREEMENT ("Agreement") is made this ____ day of _____, 19__ by and between SOUTHWESTERN BELL TELEPHONE COMPANY, a Missouri corporation ("SWBT"), and _____, a [STATE OF INCORPORATION] corporation ("Interconnector").

WITNESSETH

WHEREAS, SWBT is an incumbent local exchange carrier having a statutory duty to provide for "physical collocation" of "equipment necessary for interconnection or access to unbundled network elements" at its premises, 47 U.S.C. 251(c)(6); and

WHEREAS, the Interconnector wishes to physically locate certain of its equipment within the Premises (as defined herein) and connect with SWBT; and

WHEREAS, the building that contains the Premises ("Building") is a central office classified as an end office, a serving wire center, a tandem office, or a remote node that serves as a rating point for special access or switched access transport (singularly, an "Eligible Structure").

NOW THEREFORE, in consideration of the mutual agreements and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, SWBT and the Interconnector (the "parties") agree as follows:

ARTICLE I - PREMISES

1.1 Right to Use. Subject to this Agreement, SWBT grants to Interconnector the right to use the premises described on Exhibit ____ ("Premises"), attached and incorporated herein, within real property at _____ in the City of _____, County of _____, State of _____.

1.2 Relocation. Notwithstanding Section 1.1, in the event that SWBT ceases to use the Building as currently used or as another type of Eligible Structure, or ceases to own or occupy either the Building or the floor space on which the Premises is located, the Interconnector shall move its facilities to the new location if the Interconnector wishes to continue under this Agreement. The Interconnector shall be responsible for the preparation of the new premises at the new location if such relocation arises from circumstances beyond the reasonable control of SWBT, including condemnation or government order or regulation that makes the continued occupancy or use of the Premises or Building for the purpose then used uneconomical in SWBT's reasonable discretion. Otherwise SWBT shall be responsible for any such preparation and shall bear all SWBT costs associated with the relocation.

If the Interconnector requests that the Premises be moved within the Building or to another Eligible Structure, SWBT shall permit the Interconnector to relocate the Premises, subject to availability of space and technical feasibility. The Interconnector shall be responsible for all applicable charges associated with the move, including the reinstallation of its equipment and facilities and the preparation of the new Premises and the new Eligible Structure as applicable.

In either such event, the new premises shall be deemed the "Premises" hereunder and the new Eligible Structure (where applicable) the "Building."

1.3 The Premises. SWBT agrees, at the Interconnector's sole cost and expense as set forth herein, to prepare the Premises in accordance with working drawings and specifications entitled _____ and dated _____, which documents, marked Exhibit ____, are attached and incorporated herein. The preparation shall be arranged by SWBT in compliance with all applicable codes, ordinances, resolutions,

regulations and laws. SWBT agrees to pursue diligently the preparation of the Premises for use by the Interconnector in accordance herewith.

ARTICLE II - EFFECTIVENESS AND REGULATORY APPROVAL

2.1 Submission to State Commission. The Agreement is prepared as a component of the "Interconnection Agreement under Sections 251 and 252 of the Telecommunications Act of 1996" dated as of July 16, 1996, between SWBT and the MFS Communications Company, Inc. ("Interconnection Agreement"), and the parties intend to submit the Agreement and other elements of the Interconnection Agreement to state commissions for approval under the provisions of 47 U.S.C. § 252. This Agreement is conditioned upon the approval of this Agreement and the Interconnection Agreement. After execution of this Agreement, the parties shall submit it and the Interconnection Agreement to the State commission in the State in which the Premises is located for approval, and shall defend the Agreement and support any reasonable effort to have this Agreement so approved, including the supplying of witnesses and testimony if a hearing is held.

2.2 Failure to Receive Approval. If this Agreement does not receive such unqualified approval, this Agreement shall be void upon written notice of either party to the other after such regulatory action becomes final and unappealable. Thereafter Interconnector may request to begin negotiations again under 47 U.S.C. 251. Alternatively, the parties may both agree to modify this Agreement to receive such approval, but neither shall be required to agree to any modification. Any agreement to modify shall not waive the right of either party to pursue any appeal of the ruling made by any reviewing regulatory commission or to seek arbitration of any of

the terms of this Agreement or any of the terms of the Interconnection Agreement.

2.3 Preparation Prior to Regulatory Approval. At the written election of the Interconnector, SWBT shall begin preparing the Premises for the Interconnector prior to receiving the approval required by Section 2.1 hereof. The sole evidence of such election shall be the payment to SWBT of the initial payments specified in Sections 4.4 and 4.5; provided, however, except where transitioning certain virtual collocation arrangements to physical collocation arrangements as set forth in the Interconnection Agreement, the election shall be made in accordance with the Interconnection Agreement. Payment to SWBT of any remaining charges under these Sections shall be due upon completion. Upon such an election, this Agreement shall become effective but only insofar as to be applicable to the Premises preparation. In the event that the Agreement does not become fully effective as contemplated by this Article, the Interconnector shall not be entitled to any refund or return of any such payments beyond any portion of the charges paid but not attributable to costs incurred by SWBT. To the extent that SWBT has incurred preparation costs not included within any payment made by the Interconnector, the Interconnector shall pay those costs within thirty (30) days of notice by SWBT.

ARTICLE III - TERM

3.1 Commencement Date. This Agreement shall be a term agreement, beginning on the "Commencement Date" and ending on the date five (5) years afterwards. The "Commencement Date" shall be the first day after the Interconnector has been notified that the preparation of the Premises is complete. At the end of the term and unless the parties agree to an extension or a superseding arrangement, this Agreement shall be month-to-month.

3.2 Occupancy. Unless there are unusual circumstances, SWBT will notify the Interconnector that the Premises is ready for occupancy within five (5) days after SWBT completes preparations described in Section 2.3. The Interconnector must place operational telecommunications equipment in the Premises and connect with SWBT's network within 180 days after receipt of such notice; provided, however, that such 180-day period shall not begin until regulatory approval is obtained under Article II and, further, that SWBT may extend beyond 180 days upon a demonstration by the Interconnector of a best efforts to meet that deadline and circumstances beyond its reasonable control that prevented the Interconnector from meeting that deadline. If the Interconnector fails to do so, this Agreement is terminated on the tenth (10th) day after SWBT provides the Interconnector with written notice of such failure and the Interconnector does not place operational telecommunications equipment in the Premises and connect with SWBT's network by such tenth day. In any such event, the Interconnector shall be liable in an amount equal to the unpaid balance of the Preparation Charge. For purposes of this Section, the Interconnector's telecommunications equipment is considered to be operational and interconnected when connected to SWBT's network for the purpose of providing service.

ARTICLE IV - PREMISES CHARGES

4.1 Monthly Charges. Beginning on the Commencement Date, Interconnector shall pay to SWBT a charge of _____ Dollars (\$_____) per month for use of the Premises.

4.2 Billing. Billing shall occur on or about the 25th day of each month, with payment due thirty (30) days from the bill date. SWBT may change its billing date practices upon thirty (30) days notice to the Interconnector.

4.3 Preparation Charge. (a) The one-time charge for preparing the Premises for use by

the Interconnector is estimated to be _____ Dollars (\$XXX.XX) ("Preparation Charge"), which consists of two components: (i) the charge to the Interconnector associated with modifying the Building to provide physical collocation ("Common Charge"), and (ii) the charge associated with preparing the Premises ("Premises Charge"). Of the Preparation Charge _____ Dollars (\$XXX.XX) is the estimate for subcontractor charges ("Subcontractor Charges").

(b) SWBT will contract for and perform the construction and preparation activities underlying the Preparation Charge, including the Common Charge, the Premises Charge, and the Subcontractor Charges, and any Custom Work charges, using same or consistent practices that are used by SWBT for other construction and preparation work performed in the Building. At the request of the Interconnector, SWBT will obtain more than one trade subcontractor submission to the extent available when the initial trade subcontractor bid, proposal, or quotation exceeds \$10,000. It is understood and agreed that any such request for additional subcontractor submissions will likely add to the time necessary to provide physical collocation. Subject to an appropriate non-disclosure agreement, SWBT will permit the Interconnector to inspect supporting documents for the Preparation Charge, including the Common Charge (if the Interconnector is the initial physical collocator as used in Section 4.5(b)) and the Premises Charge, and any Custom Work charge. Any dispute regarding such SWBT charges will be subject to the dispute resolution provisions hereof.

(c) Included within the calculation of the Premises Charge shall be a charge for the point-of-termination frame to be provided by SWBT for the Premises. In lieu thereof, if the Interconnector has so elected on its initial application, the Interconnector shall provide to SWBT

a point-of-termination frame identical in manufacturer and part number(s) that SWBT would have provided as part of the Premises Charge if such election had not been made, and SWBT shall not include any cost for a point-of- termination frame within the Premises Charge (but may include installation and other charges where appropriate).

4.4 Payment of Premises Charge. Prior to any obligation on SWBT to start any preparation of the Premises, the Interconnector shall pay SWBT fifty percent (50%) of the Premises Charge and eighty-five percent (85%) of any custom work charge required to create or vacate any entrance facility for the Interconnector ("Custom Work"), and shall be due no later than ten (10) business days after the Agreement has become effective in accordance with Article II hereof. The remainder of the Premises Charge and any Custom Work charge are due upon completion and prior to occupancy by the Interconnector.

4.5 Payment of Common Charge. (a) In addition and prior to any obligation on SWBT to start any preparation of the Building for physical collocation, the Interconnector shall pay SWBT fifty percent (50%) of the Common Charge. The other fifty percent (50%) of the Common Charge is due upon completion and prior to occupancy by the Interconnector.

(b) The first entity to which SWBT provides physical collocation in the Building shall be responsible for all costs incurred by SWBT associated with the preparation of the Building to provide physical collocation in the initial space where physical collocation is to be located ("Initial Common Charge"). Thereafter the Initial Common Charge will be prorated and the prorated share refunded to the previous physical collocater(s) as additional entities use physical collocation in the Building within twelve (12) months of the first billing date of the initial monthly charge for the first physical collocator in the Building, using the following schedule:

<u>Collocator</u>	<u>Initial Common Charge</u>	<u>Refund</u>
1st	100%	NA
2nd	50%	50%
3rd	33 1/3%	16 2/3%
4th	25%	8 1/3%
5th and beyond	.0%	0%

To the extent that a physical collocator uses a space other than such initial space, SWBT shall refund to the Interconnector the portion of the Initial Common Charge applicable to such collocator based on the relative use of such initial space in a manner consistent with the above methodology and other terms of this Agreement.

(c) No interest will be paid on refunds. Refunds shall be based on the Initial Common Charge actually paid by the first physical collocator.

(d) Notwithstanding the above, SWBT shall have no obligation to remit any amount that would result in SWBT being unable to retain the full amount of the Initial Common Charge or to remit any amount based upon charges not actually collected. However, except as required by law, as a result of arbitration under Section 252, or pursuant to an arrangement whereby those physically collocated in the Building prior to July 14, 1995, are permitted to physically collocate in the same Building, SWBT shall not permit another entity to physically collocate in the Building without a charge similar in nature and purpose as the Common Charge. If SWBT does, SWBT will refund 100% of the nonrecurring Common Charge paid by the Interconnector not previously refunded if, within twelve (12) months of completion of the work represented by the Common Charge, SWBT permits another interconnector to place equipment in the common space prepared for or used by the Interconnector without a common charge.

4.6 Payment of Preparation Charge. SWBT is not obligated to start any preparation of

the Premises until the Interconnector pays SWBT fifty percent (50%) of the Preparation Charge and eighty-five percent (85%) of the charges for any Custom Work charge. Such charges shall be due no later than ten (10) business days after the Agreement has become effective in accordance with Article II hereof. The remainder of the Preparation Charge and any Custom Work charge are due upon completion and prior to occupancy by the Interconnector.

4.7 Occupancy Conditioned on Payment. SWBT shall not permit the Interconnector to have access to the Premises for any purpose other than inspection until SWBT is in receipt of complete payment of the Preparation Charge and any Custom Work charges.

4.8 Subcontractor Charges. Within one hundred twenty (120) days of the completion date of the Premises, SWBT shall perform a true-up of all Subcontractor Charges using the actual amounts billed by subcontractors. Any amounts incurred above the Subcontractor Charges will be billed to the Interconnector or, alternatively, any amount below such Charges will be remitted to the Interconnector.

4.9 Breach Prior to Commencement Date. In the event that the Interconnector materially breaches this Agreement by purporting to terminate this Agreement after SWBT has begun preparation of the Premises but before SWBT has been paid the entire amounts due under Sections 4.4 and 4.6, then in addition to any other remedies that SWBT might have, the Interconnector shall be liable in the amount equal to the non-recoverable costs less estimated net salvage. Non-recoverable costs include the non-recoverable cost of equipment and material ordered, provided or used; true-up Subcontractor Charges, the non-recoverable cost of installation and removal, including the costs of equipment and material ordered, provided or used; labor; transportation and any other associated costs. SWBT shall provide Interconnector with a

detailed invoice showing the costs it incurred associated with preparation.

4.10 Late Payment Charge. In the event that any charge is not paid when due, the unpaid amounts shall bear interest in accordance with the terms and conditions set forth in SWBT's intrastate tariff late payment provision(s) applicable to access services for the State in which the Premises is located, or the highest rate permitted by law, whichever is lower, from the due date until paid.

ARTICLE V - INTERCONNECTION CHARGES

Charges for interconnection shall be set forth in the Interconnection Agreement and any applicable SWBT tariffs.

ARTICLE VI - FIBER OPTIC CABLE AND DEMARCATION POINT

6.1 Fiber Entrances. The Interconnector shall use a dielectric fiber optic cable as a transmission medium to the Premises or, where technically and structurally feasible, microwave. SWBT shall provide at least two separate points of entry to the Building wherever there are at least two entry points for SWBT cable. Where such space is not immediately available, SWBT shall perform work as is necessary to make available such separate points of entry for the Interconnector at the same time that it makes such separate points of entry available for itself. In each instance where SWBT performs such work in order to accommodate its own needs and those specified by the Interconnector in the Interconnector's written request, the Interconnector and SWBT shall share the costs incurred by SWBT by pro-rating those costs using the number of cables to be placed in the entry point by each of the two parties in the first twelve (12) months

thereafter.

6.2 Demarcation Point. SWBT shall designate the point(s) of termination within the Building as the point(s) of physical demarcation between the Interconnector's network and SWBT's network, with each being responsible for maintenance and other ownership obligations and responsibilities on its side of that demarcation point. SWBT anticipates that the demarcation point will be within the point-of-termination frame used for the Premises.

ARTICLE VII - USE OF PREMISES

7.1 Nature of Use. The Premises is to be used by the Interconnector for purposes of locating equipment and facilities to connect with SWBT services only. Conditioned upon the other provisions hereof, SWBT shall permit Interconnector to place, maintain and operate on Premises any telecommunications equipment not specified by the FCC in CC Docket 91-141 that is necessary for Interconnector to provide any and all services which Interconnector has legal authority to provide. Consistent with the nature of the Building and the environment of the Premises, the Interconnector shall not use the Premises for office, retail, or sales purposes. No signage or marking of any kind by the Interconnector shall be permitted on the Building or on the grounds surrounding the Building.

7.2 Equipment List. A list of all the Interconnector's equipment and facilities that will be initially placed within the Premises is set forth on Exhibit __, attached and incorporated herein, with the associated power requirements, floor loading, and heat release of each piece. Interconnector's equipment and facilities shall be compliant with the standards set out in Section 8.1. The Interconnector warrants and represents that Exhibit __ is a complete and accurate list,

and acknowledges that any incompleteness or inaccuracy would be a material breach of this Agreement. The Interconnector shall not place or leave any equipment or facilities within the Premises beyond those listed on Exhibit ____ without the express written consent of SWBT.

7.2.1 Subsequent Requests to Place Equipment. In the event that subsequent to the execution of this Agreement the Interconnector desires to place in the Premises any equipment or facilities not set forth on Exhibit ____, the Interconnector shall furnish to SWBT a written list and description thereof substantially in the form of Attachment A, which is attached and incorporated. SWBT may condition the placement of any such equipment or facilities on additional charges arising from the request, including any engineering design charges and any additional requirements such as power and environmental requirements for such listed and described equipment and/or facilities. Upon the execution by both parties of a final list and description, including any applicable charges, this Agreement shall be deemed to have been amended to include the terms and conditions of the final list and description.

7.2.2 Limitations. Except as required by state or federal regulators, the foregoing imposes no obligation upon SWBT to purchase additional plant or equipment, relinquish used space or facilities, or to undertake the construction of new building quarters or to construct building additions to existing quarters in order to satisfy a subsequent request for additional space or the placement of additional equipment or facilities.

7.3 Administrative Uses. The Interconnector may use the Premises for placement of equipment and facilities only. The Interconnector's employees, agents and contractors shall be permitted access to the Premises at all reasonable times, provided that the Interconnector's employees, agent and contractors comply with SWBT's policies and practices pertaining to fire,

safety and security. The Interconnector agrees to comply promptly with all laws, ordinances and regulations affecting the use of the Premises. Upon the expiration of the Agreement, the Interconnector shall surrender the Premises to SWBT, in the same condition as when first occupied by the Interconnector, except for ordinary wear and tear.

7.4 Threat to Network or Facilities. Interconnector equipment or operating practices representing a significant demonstrable technical threat to SWBT's network or facilities, including the Building, are strictly prohibited.

7.5 Interference or Impairment. Notwithstanding any other provision hereof, the characteristics and methods of operation of any equipment or facilities placed in the Premises shall not interfere with or impair service over any facilities of SWBT or the facilities of any other person or entity located in the Building; create hazards for or cause damage to those facilities, the Premises, or the Building; impair the privacy of any communications carried in, from, or through the Building; or create hazards or cause physical harm to any individual or the public. Any of the foregoing events would be a material breach of this Agreement.

7.6 Interconnection to Others. Except to the extent that SWBT is required by law to permit, the Interconnector shall not be permitted to directly connect to other interconnectors' facilities and/or services within the Building.

7.7 Personalty and its Removal. Subject to the Article, the Interconnector may place or install in or on the Premises such fixtures and equipment as it shall deem desirable for the conduct of business. Personal property, fixtures and equipment placed by the Interconnector in the Premises shall not become a part of the Premises, even if nailed, screwed or otherwise fastened to the Premises, but shall retain their status as personalty and may be removed by Interconnector at

any time. Any damage caused to the Premises by the removal of such property shall be promptly repaired by Interconnector at its expense.

7.8 Alterations In no case shall the Interconnector or any person purporting to be acting through or on behalf of the Interconnector make any rearrangement, modification, improvement, addition, repair, or other alteration to the Premises or the Building without the advance written permission and direction of SWBT. SWBT shall consider a modification, improvement, addition, repair, or other alteration requested by the Interconnector, provided that SWBT shall have the right to reject or modify any such request except as required by state or federal regulators. The cost of any such construction shall be paid by Interconnector in accordance with SWBT's then-standard custom work order process.

ARTICLE VIII - STANDARDS

8.1 Minimum Standards. This Agreement and the physical collocation provided hereunder is made available subject to and in accordance with the (i) Bellcore Network Equipment Building System (NEBS) Generic Requirements (GR-63-CORE and GR-1089-CORE), as may be amended at any time and from time to time, and any successor documents; (ii) SWBT's Technical Publication for Physical Collocation dated _____, _____; (iii) SWBT's Technical Publication 76300, Installation Guide, dated _____, _____, followed in installing network equipment and facilities within SWBT central offices; (iv) SWBT's Emergency Operating Procedures, as may be amended from time to time; and (v) any statutory and/or regulatory requirements in effect at the execution of this Agreement or that subsequently become effective and then when effective. The Interconnector shall strictly observe and abide by each. In

the event of a contradiction between this Agreement and SWBT's Technical Publication for Physical Collocation or any revision thereof (whether objected to or not as provided below), this Agreement shall control.

8.2 Revisions. Any revision to SWBT's Technical Publication for Physical Collocation, or its Technical Publication 76300, shall become effective and thereafter applicable under this Agreement thirty (30) days after such revision is released by SWBT except for those particular revisions to which the Interconnector specifically objects within fifteen (15) days of receipt, providing therewith an explanation for each such objection. Upon each such objection, SWBT and the Interconnector shall attempt to negotiate a resolution to any such objections.

Notwithstanding the foregoing, any revision made to address situations potentially harmful to SWBT's network, the Premises, or the Building, to address Building or Premises security issues, to comply with statutory and/or regulatory requirements, or to SWBT's Emergency Operating Procedures shall become effective and applicable immediately notwithstanding any objection by the Interconnector.

8.3 Compliance Certification. The Interconnector warrants and represents compliance with the Bellcore Network Equipment Building System (NEBS) Generic Requirements (GR-63-CORE and GR-1089-CORE) for each item set forth on Exhibit ___. The Interconnector also warrants and represents that any equipment or facilities that may be placed in the Premises pursuant to Sections 7.2, 7.2.1, or otherwise shall be so compliant. Disclosure of any non-compliant item on Exhibit ___, pursuant to Section 7.2.1, or otherwise shall not qualify this absolute certification in any manner.

ARTICLE IX - RESPONSIBILITIES OF THE INTERCONNECTOR AND SWBT

9.1 Contact Number. The Interconnector is responsible for providing to SWBT personnel a contact number for Interconnector technical personnel who are readily accessible 24 hours a day, 7 days a week. SWBT is also responsible for providing to Interconnector personnel a contact number for Interconnector technical personnel who are readily accessible 24 hours a day, 7 days a week.

9.2 Trouble Status Reports. The Interconnector is responsible for promptly providing trouble report status when requested by SWBT. Likewise, SWBT is responsible for promptly providing trouble report status relating to this Agreement when requested by Interconnector.

9.3 Optical Fiber Extension. The Interconnector is responsible for bringing its fiber optic cable to the Building's entrance manhole(s) designated by SWBT, and for leaving sufficient cable length in order for SWBT to fully extend the Interconnector-provided cable through the cable vault to the Premises.

9.4 Regeneration. Regeneration of either DS1 and DS3 signal levels may be provided at the Interconnector's option by the Interconnector within the Premises, or SWBT under its then-standard custom work order process, including payment requirements prior to the installation of the regeneration equipment.

9.5 Removal. The Interconnector is responsible for removing any equipment, property or other items that it brings into the Premises or any other part of the Building. If the Interconnector fails to remove any equipment, property, or other items from the Premises within thirty (30) days after discontinuance of use, SWBT may perform the removal and shall charge the Interconnector for any materials used in any such removal, and the time spent on such removal at the then-

applicable hourly rate for custom work. Further, in addition to the other provisions herein, the Interconnector shall indemnify and hold SWBT harmless from any and all claims, expenses, fees, or other costs associated with any such removal by SWBT.

9.6 Interconnector's Equipment and Facilities. The Interconnector is solely responsible for the design, engineering, testing, performance, and maintenance of the equipment and facilities used by the Interconnector in the Premises. The Interconnector will be responsible for servicing, supplying, repairing, installing and maintaining the following facilities within the Premises:

- (a) its fiber optic cable(s);
- (b) its equipment;
- (c) required point of termination cross connects;
- (d) point of termination maintenance, including replacement fuses and circuit breaker restoration, to the extent that such fuses and circuit breakers are within the Premises and accessible by the Interconnector and only if and as required; and
- (e) the connection cable and associated equipment which may be required within the Premises to the point(s) of termination.

SWBT neither accepts nor assumes any responsibility whatsoever in any of these areas.

9.7 Verbal Notifications Required. The Interconnector is responsible for immediate verbal notification to SWBT of significant outages or operations problems which could impact or degrade SWBT's network, switches, or services, and for providing an estimated clearing time for restoral. In addition, written notification must be provided within twenty-four (24) hours. Likewise, SWBT is responsible for providing the same notice to Interconnector of problems with SWBT's network or operations which could impact or degrade Interconnector's network,

switches, or services, and provide an estimated clearing time for restoral. For purposes of this Section and Section 9.10 only, written notification may be given by electronic mail so long as the verbal notification was previously provided.

9.8 Service Coordination. The Interconnector and SWBT are responsible for coordinating with each other to ensure that services are installed in accordance with the service request.

9.9 Testing. The Interconnector is responsible for promptly testing, to identify and clear a trouble when the trouble has been isolated to an Interconnector-provided facility or piece of equipment. If SWBT testing is also required, it will be promptly provided at charges specified in SWBT's F.C.C. No. 73, Section 13.

ARTICLE X - QUIET ENJOYMENT

Subject to the other provisions hereof, SWBT covenants that it has full right and authority to permit the use of the Premises by the Interconnector and that, so long as the Interconnector performs all of its obligations herein, the Interconnector may peaceably and quietly enjoy the Premises during the term hereof.

ARTICLE XI - ASSIGNMENT

The Interconnector shall not assign or otherwise transfer this Agreement, neither in whole nor in part, or permit the use of any part of the Premises by any other person or entity, without the prior written consent of SWBT. Any purported assignment or transfer made without such consent shall be voidable at the option of SWBT. The Interconnector shall not permit another

interconnector to jointly occupy the Premises.

ARTICLE XII - CASUALTY LOSS

12.1 Damage to Premises. If the Premises is damaged by fire or other casualty, and

(i) the Premises is not rendered untenable in whole or in part, SWBT shall repair the same at its expense (as hereafter limited) and the monthly charge shall not be abated, or

(ii) The Premises is rendered untenable in whole or in part and such damage or destruction can be repaired within ninety (90) days, SWBT has the option to repair the Premises at its expense (as hereafter limited) and monthly charge shall be proportionately abated while Interconnector was deprived of the use. If the Premises cannot be repaired within ninety (90) days, or SWBT opts not to rebuild, then this Agreement shall (upon notice to the Interconnector within thirty (30) days following such occurrence) terminate as of the date of such damage. Upon the Interconnector's election, SWBT must provide to Interconnector a comparable substitute collocation arrangement at another mutually agreeable location at the applicable nonrecurring charges for that arrangement and location.

Any obligation on the part of SWBT to repair the Premises shall be limited to repairing, restoring and rebuilding the Premises as originally prepared for the Interconnector and shall not include any obligation to repair, restore, rebuild or replace any alterations or improvements made by the Interconnector or by SWBT on request of the Interconnector; or any fixture or other equipment installed in the Premises by the Interconnector or by SWBT on request of the Interconnector.

12.2 Damage to Building. In the event that the Building shall be so damaged by fire or

other casualty that closing, demolition or substantial alteration or reconstruction thereof shall, in SWBT's opinion, be advisable, then, notwithstanding that the Premises may be unaffected thereby, SWBT, at its option, may terminate this Agreement by giving the Interconnector ten (10) days prior written notice within thirty (30) days following the date of such occurrence, if at all possible.

ARTICLE XIII - RE-ENTRY

If the Interconnector shall default in performance of any agreement herein, and the default shall continue for sixty (60) days after receipt of written notice, or if the Interconnector is declared bankrupt or insolvent or makes an assignment for the benefit of creditors, SWBT may, immediately or at any time thereafter, without notice or demand, enter and repossess the Premises, expel the Interconnector and any claiming under the Interconnector, remove the Interconnector's property, forcibly if necessary, and thereupon this Agreement shall terminate, without prejudice to any other remedies SWBT might have.

SWBT may also refuse additional applications for service and/or refuse to complete any pending orders for additional space or service by the Interconnector at any time thereafter.

ARTICLE XIV - LIMITATION OF LIABILITY

14.1 Limitation. With respect to any claim or suit for damages arising in connection with the mistakes, omissions, interruptions, delays or errors, or defects in transmission occurring either in the course of furnishing service hereunder or in complying with this Agreement, the liability of either party, if any, shall not exceed an amount equivalent to the proportionate monthly charge to

the Interconnector for the period during which such mistake, omission, interruption, delay, error, or defect in transmission or service occurs and continues.

Neither party shall be responsible to the other for any indirect, special, consequential, lost profit, or punitive damages, whether in contract or tort.

Each party shall be indemnified and held harmless by the other against claims and damages by any third party arising from provision of the other party's services or equipment except those claims and damages directly associated with the provision of services to the other party which are governed by the provisioning party's applicable tariffs.

Neither party shall have any liability whatsoever to the customers of the other party for claims arising from the provision of the other party's service to its customers, including claims for interruption of service, quality of service or billing disputes.

The liability of either party for its wilful misconduct, if any, is not limited by this Agreement.

To the extent not contradicted by other provisions of this Agreement, any limitation of liability contained in the Interconnection Agreement shall also apply to this Agreement and are incorporated herein by this reference.

14.2 Third Parties The Interconnector acknowledges and understands that SWBT may provide space in or access to the Building or other network site to other persons or entities ("Others"), which may include competitors of Interconnector's; that such space may be close to the Premises, possibly including space adjacent to the Premises and/or with access to the outside of the Premises; and that the cage around the Premises is a permeable boundary that will not prevent the Others from observing or even damaging the Interconnector's equipment and

facilities. In addition to any other applicable limitation, neither party shall have absolutely any liability, whether claimed in tort or contract, with respect to any act or omission by any Other, regardless of the degree of culpability of any such Other, except in instances involving willful actions by either party or its agents or employees.

ARTICLE XV - INDEMNIFICATION

Except as otherwise provided and to the extent not contradicted herein, the indemnity provisions of the Interconnection Agreement shall apply and are incorporated herein by this reference.

ARTICLE XVI - SERVICES, UTILITIES, MAINTENANCE AND FACILITIES

16.1 Operating Services. SWBT, at its sole cost and expense, shall maintain for the Building customary building services, utilities (excluding telephone facilities), including janitor and elevator services, 24 hours a day. The Interconnector shall be permitted to have a single-line business telephone service for the Premises subject to applicable SWBT tariffs.

16.2 Utilities. SWBT will provide negative DC and AC power, back-up power, heat, air conditioning and other environmental support necessary for the Interconnector's equipment, in the same manner that it provides such support items for its own equipment within that Building.

16.3 Maintenance. SWBT shall maintain the exterior of the Building and grounds, and all entrances, stairways, passageways, and exits used by the Interconnector to access the Premises.

16.4 Legal Requirements. SWBT agrees to make, at its expense, all changes and additions to the Premises required by laws, ordinances, orders or regulations of any municipality,

county, state or other public authority including the furnishing of required sanitary facilities and fire protection facilities, except fire protection facilities specially required because of the installation of telephone or electronic equipment and fixtures in the Premises.

ARTICLE XVII - DISPUTE RESOLUTION

For disputes arising out of this Agreement, the parties agree that they will follow the procedures as set forth in Section 28.13 of the Interconnection Agreement executed between the parties.

ARTICLE XVIII - SUCCESSORS BOUND

Without limiting Article XI hereof, the conditions and agreements contained herein shall bind and inure to the benefit of SWBT, the Interconnector and their respective successors and, except as otherwise provided herein, assigns.

ARTICLE XIX - CONFLICT OF INTEREST

The Interconnector represents that no employee or agent of SWBT has been or will be employed, retained, paid a fee, or otherwise has received or will receive any personal compensation or consideration from the Interconnector, or any of the Interconnector's employees or agents in connection with the arranging or negotiation of this Agreement or associated documents.

ARTICLE XX - NON-EXCLUSIVE REMEDIES

Except as otherwise provided, no remedy herein conferred upon is intended to be exclusive of any other remedy in equity, provided by law, or otherwise, but each shall be in addition to every other such remedy.

ARTICLE XXI - NOTICES

Except as may be specifically permitted in this Agreement, any notice, demand, or payment required or desired to be given by one party to the other shall be in writing and shall be valid if dispatched by registered or certified mail, return receipt requested, postage prepaid, in the United States mails, or by facsimile transmission; provided, however, that notices sent by such registered or certified mail shall be effective on the date stated on the receipt and those sent by facsimile transmission shall only be effective on the first business day following the date of transmission ("Business day" means Monday through Friday, SWBT or Interconnector holidays excepted as applicable) and if also dispatched by that next business day by registered or certified mail, return receipt requested, postage prepaid, in the United States mails. All notices shall be addressed as follows:

If to SWBT:

If to the Interconnector:

Either party hereto may change its address by written notice given to the other party hereto in the

manner set forth above.

ARTICLE XXII - COMPLIANCE WITH LAWS

Each party and all persons acting through or on behalf of such party shall comply with the provisions of the Fair Labor Standards Act, the Occupational Safety and Health Act, and all other applicable federal, state, county, and local laws, ordinances, regulations and codes (including identification and procurement of required permits, certificates, approvals and inspections) in its performance hereunder. Each party further agrees during the term of this Agreement to comply with all applicable Executive and Federal regulations.

ARTICLE XXIII - INSURANCE

Interconnector agrees to maintain, at Interconnector's expense, during the entire time this Agreement is in effect: (i) General Liability Insurance in an amount not less than One Million Dollars (\$1,000,000.00) per occurrence for bodily injury or property damage, (ii) Employer's Liability in an amount not less than Five Hundred Thousand Dollars (\$500,000.00) per occurrence, (iii) Worker's Compensation in an amount not less than that prescribed by statutory limits, and (iv) Umbrella/Excess liability coverage in an amount of \$5 million excess of coverage specified above.

If use of an automobile is required or if the Interconnector is provided or otherwise allowed parking space by SWBT in connection with this Agreement, the Interconnector shall also maintain, at its expense, automobile liability insurance with minimum limits of \$1 million each accident for Bodily Injury, Death and Property Damage combined. Coverage shall extend to all

owned, hired and non-owned automobiles operated by Interconnector personnel in the execution of this Agreement. The Interconnector hereby waives any rights of recovery against SWBT for damage to the Interconnector's vehicles while on the grounds of the Building and the Interconnector will hold SWBT harmless and indemnify it with respect to any such damage or damage to vehicles of the Interconnector's employees, contractors, invitees, licensees or agents.

Each policy shall be underwritten by an insurance company having a BEST Insurance rating of B+VII or better, and which is authorized to do business in the jurisdiction in which the Premises is located. Interconnector shall furnish SWBT with certificates of insurance which evidence the minimum levels of insurance set forth herein and which name SWBT as an additional insured. The Interconnector shall arrange for SWBT to receive thirty (30) days advance written notice from the Interconnector's insurance company(ies) of cancellation, non-renewal or substantial alteration of its terms.

The Interconnector releases SWBT from and waives any and all right of recovery, claim, action or cause of action against SWBT, its agents, directors, officers, employees, independent contractors, and other representatives for any loss or damage that may occur to equipment or any other personal property belonging to Interconnector or located on or in the space at the instance of the Interconnector by reason of fire or water or the elements or any other risks would customarily be included in a standard all risk casualty insurance policy covering such property, regardless of cause or origin, including negligence of SWBT, its agents, directors, officers, employees, independent contractors, and other representatives. Any property insurance on the Interconnector's fixtures and other personal property shall contain a waiver of subrogation against SWBT, and any rights of the Interconnector against SWBT for damage to the Interconnector's

fixtures or personal property are hereby waived.

The Interconnector may also elect to purchase business interruption and contingent business interruption insurance, knowing that SWBT has no liability for loss of profit or revenues should an interruption of service occur.

All insurance must be in effect on or before occupancy date and shall remain in force as long as any of the Interconnector's facilities or equipment remain within the Premises or the Building. If the Interconnector fails to maintain the coverage, SWBT may pay the premiums thereon and, if so, shall be reimbursed by the Interconnector.

The Interconnector must also conform immediately to the recommendation(s) specific to the Premises which are made by SWBT's Property Insurance Company as a result of a firesafety inspection. To the extent that those recommendation(s) also apply to SWBT, the Interconnector shall only be required to conform to those recommendation(s) implemented by SWBT. The failure to comply with the preceding sentence shall be deemed a material violation of this Agreement.

ARTICLE XXIV - SWBT'S RIGHT OF ACCESS

SWBT, its agents, employees, and other SWBT-authorized persons shall have the right to enter the Premises at any mutually agreed upon time to examine its conditions, make repairs required to be made by SWBT hereunder, and conduct routine inspections. Notwithstanding the above, SWBT may access the Premises for purposes of averting any threat of harm imposed by the Interconnector or its equipment or facilities upon the operation of SWBT equipment, facilities and/or personnel located outside of the Premises and, in the case of a firesafety or similar

inspection, at any reasonable time.

ARTICLE XXV -- OTHER COLLOCATION AGREEMENTS

When SWBT enters into an agreement (the "Other Agreement") for the provision of physical collocation covered by this Agreement with another requesting Telecommunications Carrier, including an Affiliate, SWBT will make available and the Interconnector may avail itself of the same physical collocation rates, terms, or conditions in their entirety as those provided in the Other Agreement, subject to space availability and any applicable state regulatory approval. (The terms "Telecommunications Carrier" and "Affiliate" have the meanings ascribed to them in the Interconnection Agreement.)

ARTICLE XXVI - PURPOSE AND SCOPE OF AGREEMENT

Even though SWBT is permitting the Interconnector in accordance with Section 7.1 to place, maintain, and operate on the Premises any telecommunications equipment not specified by the FCC in CC Docket 91-141, the parties agree that this Agreement is not an admission, waiver, or legal precedent that SWBT has agreed that any such piece of telecommunications equipment is required to be provided under a virtual collocation arrangement under 47 U.S.C. 251(c)(6) or otherwise.

ARTICLE XXVII - MISCELLANEOUS

27.1 Exhibits. The following Exhibits are attached hereto and made part hereof:

Exhibit _____

000111

Exhibit_____

Exhibit_____

Exhibit_____

27.2 Variations. In the event of variation or discrepancy between any duplicate originals hereof, including exhibits, the original Agreement shall control.

27.3 Governing Law. For all claims under this Agreement that are based upon issues within the jurisdiction (primary or otherwise) of the Federal Communications Commission, the exclusive jurisdiction and remedy for all such claims shall as provided for by the FCC and the Telecommunications Act of 1996. For all claims under this Agreement that are based upon issues within the jurisdiction (primary or otherwise) of the State Commission in the State where the Premises is located, the exclusive jurisdiction for all such claims shall be with that State Commission, and the exclusive remedy for such claims shall be as provided for by that State Commission. In all other respects, this Agreement shall be governed by the domestic laws of the State in which the Premises is located without regard to the choice of law principles thereof.

27.4 Joint and Several. If either party constitutes more than one person, partnership, corporation, or other legal entities, the obligation of all such entities under this Agreement is joint and several.

27.5 Future Negotiations. SWBT may refuse requests for additional space in the Building or in any other SWBT premises if the Interconnector is in material breach of this Agreement, including having any past due charges hereunder. In any and each such event, the Interconnector hereby releases and shall hold SWBT harmless under Article XV from any duty to negotiate with the Interconnector or any of its affiliates for any additional space or physical collocation until the

Interconnector has remedied the alleged breach.

27.6 Severability. With the exception of the requirements, obligations, and rights set forth in Article II hereof, if any of the provisions hereof are otherwise deemed invalid, such invalidity shall not invalidate the entire Agreement, but rather the entire Agreement shall be construed as if not containing the particular invalid provision(s), and the rights and obligations of SWBT and the Interconnector shall be construed accordingly.

27.7 Paragraph Headings and Article Numbers. The headings of the articles paragraphs herein are inserted for convenience only and are not intended to affect the meaning or interpretation of this agreement.

27.8 Entire Agreement. Recognizing that this Agreement is component of the Interconnection Agreement, this Agreement with the attached schedules and exhibits, and referenced documentation and materials attached hereto set forth the entire understanding of the parties with respect to physical collocation and supersedes all prior agreements, arrangements and understandings relating to this subject matter and may not be changed except in writing by the parties; provided, however, that this provision shall not affect current or pending tariffs, under investigation or otherwise, including any charges due thereunder. No representation, promise, inducement or statement of intention has been made by either party which is not embodied herein, and there are no other oral or written understandings or agreements between the parties relating to the subject matter hereof except as may be referenced herein.

27.9 No Third Party Beneficiaries. Nothing in this Agreement is intended, nor shall be deemed, to confer any rights or remedies upon any person or legal entity not a party hereto.

27.10 Multiple Originals. This Agreement may be executed in multiple copies, each of

which shall be deemed an original.

27.11 Wavier of Obligations. (a) Whenever this Agreement requires the consent of a party, any request for such consent shall be in writing.

(b) Neither party shall be deemed to have waived or impaired any right, authority, or option reserved by this Agreement (including the right to demand exact compliance with every term, condition and covenant herein, or to declare any breach hereof to be a default and to terminate this Agreement prior to the expiration of its term), by virtue of any custom or practice of the parties at variance with the terms hereof or any failure, refusal or neglect to exercise any right under this Agreement or to insist upon exact compliance by the other with its obligations hereunder, including any rule or procedure, or any waiver, forbearance, delay, failure or omission by SWBT to exercise any right, power or option, whether of the same, similar or different nature, with respect to one or more other interconnectors.

27.12 Rights Cumulative. The rights of a party hereunder are cumulative and no exercise or enforcement by such party of any right or remedy hereunder shall preclude the exercise or enforcement of any other right or remedy hereunder or to which such party is entitled to enforce.

27.13 Force Majeure. Neither party shall be liable for any delay or failure in performance of any part of this Agreement from any cause beyond its control and without its fault or negligence including, without limitation, acts of nature, acts of civil or military authority, government regulations, embargoes, epidemics, terrorist acts, riots, insurrections, fires, explosions, earthquakes, nuclear accidents, floods, work stoppages, equipment failure, cable cuts, power blackouts, volcanic action, other major environmental disturbances, unusually severe weather conditions, inability to secure products or services of other persons or transportation

facilities or acts or omissions of transportation carriers (collectively, a "Force Majeure Condition"). If any Force Majeure Condition occurs, the party delayed or unable to perform shall give prompt notice to the other party and shall take all reasonable steps to correct the Force Majeure Condition. During the pendency of such Condition, the duties of the parties under this Agreement affected by the Force Majeure Condition shall be abated and shall resume without liability thereafter.

IN WITNESS WHEREOF, the duly authorized representatives of the parties have executed and delivered this Agreement as of the day and year first above written.

THIS AGREEMENT CONTAINS A BINDING ARBITRATION AGREEMENT.

SOUTHWESTERN BELL TELEPHONE COMPANY

By: _____

Title: _____

Interconnector:

By: _____

Title: _____

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ATTACHMENT A

Southwestern Bell Telephone Company
[Address and to the attention of per notice provision]

Re: [Reference Identifier on Cover Sheet]

Pursuant to the referenced Physical Collocation Agreement ("Agreement"), this letter constitutes a request to place the following additional equipment and/or facilities in the Premises;

<u>Generic Name</u>	<u># of Bays</u>	<u>Floor Loading</u>	<u>Power Req.</u>	<u>Heat Release</u>
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If this request is acceptable to Southwestern Bell Telephone Company ("SWBT"), please indicate that acceptance by executing both originals and returning one to the undersigned. With the return of an executed original, the Agreement shall be deemed amended to reflect that the listed equipment and facilities may be located in the Premises. In all other respects, the Agreement shall be unaffected.

If not acceptable, please let me know of SWBT's objections or conditions to its acceptance.

All capitalized terms not defined in this letter but defined in the Agreement shall have the meaning ascribed to such term in the Agreement.

INTERCONNECTOR

By: _____

Title: _____

Name: _____

AGREED AND ACCEPTED:

SOUTHWESTERN BELL TELEPHONE
COMPANY

By: _____

Title: _____

Name: _____

Dated: _____

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APPENDIX 911

JULY 1996

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APPENDIX 911

TERMS AND CONDITIONS FOR PROVIDING CONNECTION TO E911 UNIVERSAL EMERGENCY NUMBER SERVICE

This Appendix between SWBT and MFS sets forth the terms and conditions upon which SWBT will provide MFS's connection to E911 Universal Emergency Number Service in Missouri.

I. DEFINITIONS

As used herein and for the purposes of this Appendix the following terms shall have the meanings set forth below:

- A. E911 Universal Emergency Number Service, also referred to as Expanded 911 Service or Enhanced 911 Service - a telephone exchange communication service whereby a public safety answering point (PSAP) designated by the E911 customer may receive and answer telephone calls placed by dialing number 911. E911 includes the service provided by the lines and equipment associated with the service arrangement for the answering, transferring, and dispatching of public emergency telephone calls dialed to 911.
- B. E911 Customer - a municipality or other state or local governmental unit, or an authorized agent of one or more municipalities or other state or local government units to whom authority has been lawfully delegated to respond to public emergency telephone calls, at the minimum, for emergency police and fire service through the use of one telephone number, 911.
- C. E911 Control Office - E911 Tandem Switching Office.
- D. Public safety answering point (PSAP) - an answering location for 911 calls originating in a given area. The E911 customer may designate a PSAP as primary or secondary, which refers to the order in which calls are directed for answering. Primary PSAPs respond first; secondary PSAPs receive calls on a transfer basis only. PSAPs are public safety agencies such as police, fire, emergency medical, etc., or a common bureau serving a group of such entities.
- E. Centralized Automatic Message Accounting (CAMA) trunk - a trunk capable of transmitting Automatic Number Identification (ANI) associated with E911 customer calls from switch to the E911 Network.

- F. Automatic number identification (ANI) - feature that automatically forwards the telephone number of the calling party to the E911 Control (E911 Tandem Switching) Office from which it is switched to the public safety answering point (PSAP) and is displayed at an attendant position console.
- G. Automatic location identification (ALI) - feature that forwards the name, street address, class of service, and other pre-determined information associated with the calling party's telephone number (identified by ANI) to the PSAP for display.
- H. Selective routing (SR) - feature that provides the capability to selectively route a 911 call to the designated primary PSAP based upon the identified number of the calling party.
- I. Database Management System (DBMS) - A system of manual procedures and computer programs used to create, store and update the data required for the SR and ALI service features of E911 service.

II. RESPONSIBILITIES

- A. SWBT shall provide and maintain such equipment at the E911 Control Office and the DBMS as is necessary to perform the E911 services set forth herein. This shall include all of the following:
 - 1. Transporting the E911 calls from the meet-point with MFS facilities connecting MFS's exchanges listed in Exhibit I (attached hereto and made a part hereof) to the Control Offices of the E911 System.
 - 2. Switching the E911 calls through the Control Office(s) to the designated primary PSAP or to designated alternate locations, according to routing criteria specified by the E911 Customer.
 - 3. Storing the names, addresses, and associated telephone numbers from MFS's exchanges in the electronic data processing database for the E911 DBMS. MFS is responsible for downloading and updating this information.
 - 4. Transmission of ANI and ALI information associated with MFS's end users accessing E911 service to the PSAP for display at an attendant position console.
- B. SWBT shall provide and maintain sufficient dedicated E911 circuits, according to provisions of the E911 tariff and specifications of the E911 Customer.

- C. SWBT shall provide MFS with a description of the geographic area and PSAPs served by the E911 Control Office(s) according to industry standards for E911 information sharing.
- D. SWBT shall provide MFS with a file containing the Master Street Address Guide (MSAG) for the exchanges or communities specified in Exhibit I, in accordance with the methods and procedures described in Exhibit IV. SWBT shall also provide MFS additional files with the entire MSAG, including subsequent additions or updates to the MSAG in accordance with the intervals specified in Exhibit I. In addition, SWBT shall provide MFS with a statistical report in a timely fashion and in accordance with the methods and procedures described in Exhibit IV, for each file downloaded by MFS to SWBT's DBMS, so that MFS may ensure the accuracy of the end user records.
- E. MFS shall connect its switches to the E911 Control Office by one-way outgoing CAMA trunks dedicated for originating 911 emergency service calls. Orders for such trunks shall be made on the form attached hereto as Exhibit III.
- F. At a reasonable time prior to establishment of E911 Service, MFS shall download and maintain thereafter all information required to establish records necessary for furnishing connection to E911 Service and shall promptly notify SWBT in writing of any changes to be made in such records. MFS shall adopt and comply with operating methods applicable to downloading and maintaining MFS's end user records in SWBT's DBMS, as set forth in Exhibit IV, attached hereto and incorporated herein.
- G. MFS acknowledges that its end users in a single local calling scope may be served by different PSAPs, and MFS shall be responsible for providing facilities to route calls from its end users to the proper E911 Control Office(s).
- H. When SWBT provides INP to MFS, MFS will provide the ported and translated numbers to SWBT for inclusion in the DBMS and SWBT will make this information available to PSAPs in accordance with NENA standards upon their adoption.

III. METHODS AND PRACTICES

With respect to all matters covered by this Appendix, each Party will adopt and comply with standard industry operating methods and practices and will observe the terms and conditions of SWBT's tariff, rules and regulations of the FCC, the Missouri Public Utility Commission, and the Missouri Advisory Commission on State Emergency Communications, that apply to the provision of E911 Service.

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IV. CONTINGENCY

- A. The parties agree that the E911 service is provided for the use of the E911 Customer, and recognize the authority of the E911 Customer to establish service specifications and grant final approval (or denial) of service configurations offered by SWBT and MFS. The terms and conditions of this Appendix represent a negotiated plan for providing E911 service, for which MFS must obtain documentation of approval from the appropriate E911 Customer(s) which have jurisdiction in the areas(s) in which MFS' customers are located. MFS shall provide such documentation to SWBT prior to use of MFS' E911 connection for actual emergency calls. Such documentation shall be attached hereto as Exhibit V.
- B. Both Parties agree to designate a representative who shall have the authority to execute additional exhibits to this Appendix when necessary to accommodate expansion of the geographic area of MFS into the jurisdiction of additional PSAPs or to increase the number of CAMA trunks. The designated representative for SWBT is Director-Planning and Engineering and for MFS is E911 Manager.
- C. The terms and conditions of this Appendix are subject to renegotiation in the event that the E911 Customer orders changes to the E911 service that necessitate revision of this Appendix.

V. BASIS OF COMPENSATION

- A. Compensation to SWBT for provision of connection to E911 Service provided hereunder shall be based upon the charges set forth in Exhibit II, BASIS OF COMPENSATION, and applied as specified in Exhibit I, EXCHANGES AND CONFIGURATIONS.
- B. For computation in Exhibit II, during the initial year that SWBT provides MFS connection to E911 service, the number of access lines in each involved exchange of MFS as shown in Exhibit I shall be counted as of the first day of January, and the number so obtained shall be used in computing compensation under this Appendix until the end of the 1st Quarter of the current year. A new count of access lines, as of the first day of April (2Q), July (3Q) and October (4Q), will be used in the computation of compensation under this Appendix for that Quarter. At the end of the first full year, a new count of access lines will be taken and it shall be used for the second full year. For each succeeding year, a new count of access lines, as of the first day of January, shall be used in the computation of compensation under this Appendix for that year. Each count of access lines will be rounded to the nearest thousand for compensation purposes.
- C. Charges shall begin on the date connection to E911 Service commences.

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- D. SWBT ensures that the charges set forth in Exhibit II are nondiscriminatory and no less favorable than those charges to other local exchange companies operating in the same exchanges as MFS.

VI. MONTHLY BILLING

SWBT will render to MFS monthly statements in advance, showing the amounts determined as provided in Section V above, and MFS will make payment in full within thirty (30) days from the date of the bill.

APPENDIX 911

EXHIBIT I

EXCHANGES AND CONFIGURATIONS

EFFECTIVE: _____

SWBT shall provide connection to E911 Service in the feature configurations shown below:

<u>Exchange</u>	<u>E911 Auto. No. Ident.</u>	<u>Selective Routing</u>	<u>Combined ANI & Sel. Routing</u>	<u>Combined ANI & Loc. Ident.</u>	<u>Combined ANI, ALI & Sel. Routing</u>
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APPENDIX 911

EXHIBIT II

BASIS OF COMPENSATION

The following compensation amounts shall be due SWBT for the provision of services under the above-mentioned Appendix for the LSP exchanges and the feature configurations shown in Exhibit I.

<u>E911 Feature Configuration</u>	<u>Monthly Charge Per 1,000 Access Lines</u>	<u>Nonrecurring Charge Per 1,000 Access Lines</u>
Automatic Number Identification (ANI)	\$10.00	\$80.00
Combined Automatic Number Identification & Selective Routing (ANI/SR)	\$51.60	\$85.00
Combined Automatic Number and Automatic Location Identification (ANI/ALI)	\$83.60	\$85.00
Combined Automatic Number, Automatic Location Identification, & Selective Routing	\$83.60	\$85.00
<u>Trunking Charge</u>	<u>Monthly Rate</u>	<u>Nonrecurring Charge</u>
Interexchange Channel, each	\$58.00	\$170.00

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EXHIBIT III

E9-1-1

NETWORK INTERFACE

**LOCAL SERVICE PROVIDER
TO SOUTHWESTERN BELL
PROVIDED E9-1-1 NETWORKS**

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BACKGROUND:

The following document was prepared by the Technical Staff on the 9-1-1 Product Team to develop a means to convey the network requirements necessary to integrate Local Service Providers (LSPs) Wireline Networks into SWBT furnished Enhanced 9-1-1 Systems.

Enhanced 9-1-1 Service has furnished tools for the public safety communities to more accurately determine the location of a caller requesting emergency assistance. The entire process begins with the successful identification of the unique number assigned to telephone set making the call and delivering this number to a dedicated E9-1-1 Network (Automatic Number Identification - ANI).

SWBT utilizes a tandem architecture for E9-1-1 Networks. This means that each central office switch connects (via trunk groups dedicated only to 9-1-1) to another switch equipped with special software which enables it to route calls to a Public Safety Answering Point (PSAP). This 9-1-1 tandem switch contains tables of telephone numbers to PSAP routing translations. Each 9-1-1 tandem links all of SWBT's central office switches and PSAPs within a specific geographic 9-1-1 service area.

Routing translations are updated via a Database Management Systems (DBMS) operated by SWBT. This computer system is able to assign a PSAP to each telephone number by a cross reference to its service address. The service address is obtained from customer records loaded into the system by each Local Service Provider. A Master Street Address Guide (MSAG) (developed by the 9-1-1 Service Customer) lists the street names and address ranges served by each PSAP. LSP customer records containing the service address, are processed against this MSAG (via the service address) to obtain a PSAP assignment for each customer telephone number.

The DBMS also provides input in the Automatic Location Identification (ALI) System. This data network provides the customer name, service address, and serving public safety agencies (police, fire and ambulance) associated with the calling party's telephone number (identified by ANI). This information can be displayed on an ALI screen (crt) at each PSAP that subscribes to the service.

Each LSP switch will be treated as a central office in the 9-1-1 network. A minimum of two trunks from each switch are to be connected to the tandem switch (not the access tandem but the 9-1-1 tandem). They will be loop, reverse battery trunks. They will adhere to the protocols delineated in this document. Note that there is no area code (or NPA) information contained in the ANI data being sent to a 9-1-1 tandem. If a central office switch serves more than one area code (NPA) (say 214 and 817) and this central office homes on one 9-1-1 tandem which serves the same two area codes, two trunk groups will have to be established to the 9-1-1 tandem from the central office. One trunk group will carry only traffic from the 214 area code and the other only traffic from the 817 area code. Records of the service address of telephone number provided by the LSP will be maintained by the LSP. Methods for including records in the ALI System are beyond the scope of this document and should be obtained from the Competitive Provider Account Team

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AUTOMATIC NUMBER IDENTIFICATION

INTRODUCTION

This document describes the technical requirements for interfacing a Local Service Provider (LSP) voice circuit with Enhanced 9-1-1 (E9-1-1) Communication Networks. It primarily characterizes prerequisite Automatic Number Identification (ANI) specifications necessary to successfully deliver 9-1-1 calls to the proper public safety agencies and initiate Selective Routing (SR) and Automatic Location Identification (ALI) features of these networks.

In order to provide E9-1-1 service, an LSP switch must be able to send the telephone number of the caller who originates a 9-1-1 service call according to specifications outlined herein. The ability of equipment to automatically identify this number and forward it with the call is termed Automatic Number Identification (ANI). The caller's telephone number must be sent in an ANI format corresponding to Centralized Automatic Message Accounting (CAMA) standards. These standards will be discussed in detail later in this document. A trunk circuit capable of performing these functions is called a CAMA type trunk.

An LSP switch is connected to the E9-1-1 Telephone Network by one-way outgoing CAMA type trunks. The switch must be arranged so that these trunks are to be dedicated for the origination of 9-1-1 emergency service calls only. They may connect to a switch which will route the 9-1-1 call to the proper Public Safety Answering Point (PSAP), which is called tandem trunking, or they may connect directly to a PSAP, which is considered direct trunking. The method of interconnection will be specified in a service plan developed and maintained by the 9-1-1 Service Customer. The 9-1-1 Service Customer may be a municipality, a council of governments, a communication district, or other state or local governmental unit, or an authorized agent of one or more municipalities or other state or local governmental units to whom authority has been lawfully delegated.

Automatic Number Identification (ANI) is the basis of E9-1-1 Services. It allows calls to be selective routed to the proper answering points, triggers the ALI data retrieval process, and enhances the speed and ability of call takers to properly handle emergency service requests.

LSP SWITCH INTERFACE TO E9-1-1 SYSTEM

Automatic Number Identification (ANI)

ANI, in this case, refers to the ability of a Local Service Provider Switch to pass telephone identification to the public switched network. The calling party's telephone number would be passed via multifrequency tones (MF) along the voice path of the LSP switch outgoing CAMA trunk to another switch or to customer premises equipment such as ANI controllers used in 9-1-1 PSAPs. Along with the calling party's telephone number, the LSP switch must send an ANI information digit(s). Traditional signalling requires one (1) digit, while expanded signalling requires two (2) digits. Existing E9-1-1 Networks are utilizing traditional signalling, a single digit, at this time. The information digit will be a zero (0) or a two (2) from the LSP switch. Zero (0) indicates a successful automatic identification and the calling party's seven (7) digit telephone number will follow. A two (2) indicates an ANI failure at the LSP switch. The format of the ANI signal is:

KP-I-NXX-XXXX-ST

Where:	KP	indicates a KP (key pulse) signal
	I	information digit
	NXX	the prefix of the telephone number (exchange)
	XXXX	the caller's station number
	ST	indicates a ST(Start Pulse)

(the hyphens are inserted for clarity only and are not sent)

All of this information is sent via Multifrequency (MF) Pulsing. MF Pulsing is a method of communicating call set-up information over telephone trunks by various combinations of two out of six frequencies in the voice band. Each combination of two frequencies sent as a pulse of tone is intended to represent a digit or a control signal such as the KP or ST. The signals are transmitted over the regular talking (voice) path of each trunk circuit. MF receivers detect the pulses and transfer the digit information to switching control equipment and/or data collection systems. MF signals are **not** the same as DTMF signals. They are combinations of different frequency tones. The six MF frequencies are 700, 900, 1100, 1300, 1500, and 1700 Hz. The next page shows the frequency combinations and what digits or control codes they represent.

FREQUENCIES IN Hz	SIGNALS			
	DIGIT AND CONTROL	EXPANDED INBAND	CCITT SYSTEM 5	TSPS EQUAL ACCESS
700 + 900	1	Coin Collect	Code 11	ST3P (ST''')
700 + 1100	2			
700 + 1300	4			
700 + 1500	7			
700 + 1700		Ringback	Code 12	STP (ST')
900 + 1100	3			
900 + 1300	5			
900 + 1500	8			
900 + 1700		Operator Released	Code 12	STP (ST')
1100 + 1300	6			
1100 + 1500	9			
1100 + 1700	KP			
1300 + 1500	0	Operator Attached	KP1	
1300 + 1700				
1300 + 1700		Coin Return	KP2	ST2P (ST'')
1500 + 1700	ST			
		Coin Collect Operator Released		ST

MULTIFREQUENCY CODES

000129

MF tone transmitters used in E9-1-1 Networks are arranged for a pulse duration or interdigital periods of 60 ± 0.5 milliseconds (ms) each (a rate of approximately 8.3 digits per second). The MF pulsing rates may be 58 to 75 ms for the ST (start pulse), signal, digit pulses, and interdigital intervals. The **KP** (key pulse) control signal duration is 90 to 120 ms. It is considered good practice for this signal to be sent near 120 ms to provide margin against transmission impairments such as delay distortion.

MF tone transmitters should be arranged so that under normal conditions, the two tones are applied to the trunk simultaneously and neither tone is transmitted if either tone source should fail. The start and end of the two tones must be within 1 ms of each other.

SIGNALING PROTOCOL

CALLS ROUTED VIA 9-1-1 SWITCH

Circuits from an LSP switch that connects to the E9-1-1 Network via a switch utilize controlled outpulsing protocol. With controlled outpulsing, the originating LSP switch seizes the 9-1-1 trunk and sends a connect signal to the 9-1-1 switch. These circuits will normally signal on-hook toward each end when in the idle state. On receipt of a connect signal, the 9-1-1 switch will initiate a request for a register to collect the **called** digits (9-1-1, or 1-1 in this case) and does not immediately return an off-hook signal to the LSP. An idle condition on-hook signal to the LSP is maintained until the register is attached at the 9-1-1 switch, when a wink-start signal is sent by the 9-1-1 switch. The wink-start signal is an off-hook signal that must meet the following requirements:

- (a) The off-hook must be a minimum of 140 ms and a maximum of 290 ms in duration.
- (b) The off-hook to on-hook transition must not occur until 210 ms after the connect signal is received.

The nominal wink-start signal is about 150 ms from a 9-1-1 switch. It is desirable to minimize post-dialing delay by sending the on-hook transition as soon as possible after the above requirements are met.

The LSP switch will be expected to send the digits 9-1-1 or 1-1 to the 9-1-1 switch as the called number when an emergency service call is initiated. The called number will be sent (**using MF pulsing**) in the following format:

000130

KP-9-1-1-ST

or

KP-11-ST

(the hyphen is shown for clarity only, it is not sent)

The 9-1-1 switch will then return a steady off-hook which tells the LSP switch to forward the ANI information in the format previously discussed. The ANI request signal (off-hook) is also used as a supervisory signal which persists until after the calling party disconnects or until 11 to 13 seconds after the called party disconnect is received by the 9-1-1 switch. There is no requirement for a delay between the receipt of the off-hook start dial by the LSP switch and its sending of the KP pulse of the ANI information. However, it is good practice to have a minimum delay of 50 ms between these two signals to permit the transients associated with the off-hook start-dial signal to dissipate before the first MF pulse is sent.

SIGNALING SEQUENCE

After an LSP subscriber dials 9-1-1:

LSP SWITCH

E9-1-1 SWITCH

1. SEIZE------(OFF-HOOK)----->
2. <----- 140 ms TO 290 ms ----->
3. KP 9-1-1 ST ----->
4. <----- OFF-HOOK
5. KP I NXXXXXXX ST (ANI) ----->
6. <----- TALKING PATH CONNECTED ----->

Calling party goes on-hook

7. LSP DISCONNECTS -----(ON-HOOK) ----->
8. <----- 9-1-1 SWITCH DISCONNECTS ----- ON-HOOK

000131

When the calling party disconnects first, the LSP switch sends an on-hook signal to the 9-1-1 switch and may release the trunk after an on-hook is received from the 9-1-1 switch. When the 9-1-1 switch receives the on-hook, the 9-1-1 connection is released and an on-hook sent to the LSP switch.

If the PSAP call taker disconnects first, the PSAP equipment sends an on-hook to the 9-1-1 switch. The switch begins a 1.2 second flash timing, which completes in this case. The 9-1-1 switch sends an on-hook to the LSP switch and begins a 4 to 5 second timing for an on-hook from the LSP switch. When the on-hook is received or the time-out occurs, the 9-1-1 switch disconnects the call connections, sends on-hook to the PSAP and idles the 9-1-1 circuit to the LSP switch.

000132

EXHIBIT IV

OVERVIEW

This document provides Methods & Procedures for a Local Service Provider to use to create and maintain a 9-1-1 database that will be housed in the Southwestern Bell Telephone Company's (SWB) Fault Resilient Data Base Management System (FR/DBMS). This database will be necessary to provide the Automatic Location Information (ALI) and/or Selective Routing (SR) in a given area.

TYPE OF DATA

Below is a list of the required data for each customer record. The file format required is outlined later in this document.

NPA
NNX
TN
CUSTOMER CODE (A UNIQUE CODE TO IDENTIFY THE DATABASE THIS TN IS
DISTRIBUTED TO - SWB WILL PROVIDE ONCE Local Service Provider
IS CONFIGURED IN FR/DBMS)
HOUSE NUMBER
PREFIX DIRECTIONAL
STREET NAME (THIS INCLUDES THE STREET DESIGNATION AND POST
DIRECTIONAL IF ONE EXISTS)
COMMUNITY
STATE
CUSTOMER NAME
CLASS OF SERVICE (A LIST OF CODES IS PROVIDED IN THIS DOCUMENT)
TYPE OF SERVICE, (A LIST OF CODES IS PROVIDED IN THIS DOCUMENT)
EXCHANGE (THE EXCHANGE OF THE TELCO AS SHOWN IN THE MASTER
STREET ADDRESS GUIDE (MSAG))
MAIN NPA
MAIN NNX
MAIN TN
LOCATION (THIS FIELD IS FOR APT #'S, BLDG #'S, ETC)
TELCO FIELD (THIS IS NOT DISPLAYED AT THIS TIME- COULD BE USED
FOR PORTED NUMBER)
ORDER NUMBER (OPTIONAL)

CUSTOMER COORDINATION

A coordination meeting must be held with the 9-1-1 Entity and appropriate Incumbant Local Exchange Carriers (ILEC) to review the area the Local Service Provider will be serving and to discuss the level of 9-1-1 service that must be met. SWB will request authorization from the 9-1-1 Entity to allow a copy of the MSAG to be provided to the Local Service Provider for their service area.

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In this meeting the following information will be obtained in order to configure the Local Service Provider in the SWB FR/DBMS. Once the Company has been configured in the system, a login and temporary password will be assigned.

- o Name of Local Service Provider
- o Address of Local Service Provider
- o Telephone Number of Local Service Provider
- o Contact Name
- o Area Code, NXX, and Line Numbers and SR Tandem
- o Completed LOGIN Request form signed by the Local Service Provider

When the login is provided SWB will also provide the necessary dial up telephone number and the Packet Address to use for access to the FR/DBMS.

PROCESS PROCEDURES

MASTER STREET ADDRESS GUIDE PROCESSING:

With authorization from the 9-1-1 Entity a copy of the MSAG will be provided to the Local Service Provider. A .msag file will be created and put in the home directory of the Local Service Provider who could then pull the file back to a PC for easier storage and review. An updated copy can be provided at regular intervals (ex.- weekly) to ensure the Local Service Provider has the most up to date information. If there are any questions about the contents of the MSAG it will be the Local Service Provider responsibility to coordinate with the 9-1-1 Entity. The layout of the .msag file is as follows:

FR/DBMS .msag FILE OUTPUT FORMAT

<u>COLUMN</u>	<u>LENGTH</u>	<u>DATA/TYPE</u>	<u>NAME OF FIELD</u>
1	2	AN	Prefix Directional
3	48	AN	Street Name
51	8	AN	Low House Number
59	8	AN	High House Number
67	32	A	Community Name
99	1	A	Odd/Even Indicator
100	3	AN	Emergency Svc. Number
103	4	AN	Exchange
107	2	N	Month (This date indicates
109	2	N	Day the date of the last
111	2	N	Year change)

The 911 customer will notify SWBT Co. of any additions, changes, or deletes to their Master Street Address Guide (MSAG) using the procedures that are already in place today.

TELEPHONE NUMBER PROCESSING

The FR/DBMS processes telephone number records by matching the address on the TN record with the MSAG. If a match is found the ESN is assigned to the TN record and it is presented to the TN database. Today, the MSAG's are built and associated with the Exchange of the current Local Exchange Carrier. The TN records submitted by a Local Service Provider will need to carry the Exchange code shown in the MSAG for proper processing in the FR/DBMS.

To avoid a conflict with another ILEC's TN records, SWB will utilize the program in place for Private Switch 9-1-1 that allows a validation to be done in the TN database. This interface validates the NPA, NXX, and line numbers to be sure they are valid for the Local Service Provider. When the Local Service Provider is configured in the FR/DBMS a table is maintained indicating the NPA, NXX, and line numbers that they are assigned. This information is determined in the Coordination Meeting held between the 9-1-1 Entity, the ILEC's and Local Service Provider's. If new NPA, NXX's are opened by a Local Service Provider it will be necessary for them to notify the SWB Marketing person so this information can be updated prior to sending any TN records for processing in the FR/DBMS.

Telephone Number Record Load

FLAT FILE TRANSFER METHOD:

The file will be in National Emergency Number Association (NENA) Recommended Format for Data Exchange, Version 1 (see Attachment A) using a header and trailer record. The header and trailer record will be in the NENA Recommended Format for Data Exchange, Version 1 (see Attachment B & C).

SWBT will store specific fields of Data that resides in the NENA Format. The Record Layout on the following page outlines the data fields that will reside in the SWBT FR/DBMS. It also indicates which fields are mandatory for an ALI record.

SWBT RECORD LAYOUT OF STORED DATA

<u>NAME OF FIELD</u>	<u>LENGTH</u>	<u>REQUIRED</u>	<u>NOTES</u>
NPA	3	*	
NNX	3	*	
TN	4	*	
CUSTOMER CODE SWBT)	4	*	(This code is assigned by
HOUSE NUMBER	10	*	
HOUSE NUMBER SUFFIX	4	*	
PREFIX DIRECTIONAL	2	*	
STREET NAME	44	*	
POST DIRECTIONAL	2	*	
COMMUNITY	32	*	
COUNTY	4	N/A	MSAG WILL ASSIGN
STATE	2	*	
CUSTOMER NAME	32	*	
CLASS OF SERVICE	1	*	
TYPE OF SERVICE	1	*	
EXCHANGE	4	*	USE EXC FROM MSAG
ESN	5	N/A	MSAG WILL ASSIGN
MAIN NPA	3	*	IF APPLICABLE
MAIN NNX	3	*	IF APPLICABLE
MAIN TN	4	*	IF APPLICABLE
LOCATION	20	*	Ex. BLDG 1 Apt 23
TELCO	20	**	MAY BE USED FOR PORTED
ORDER NUMBER	10	**	OPTIONAL

* = REQUIRED DATA ** = OPTIONAL DATA N/A = THESE FIELDS DO NOT APPLY

GENERAL INFORMATION

The LOCAL SERVICE PROVIDER will connect to the Fault Resilient Database Management System (FR/DBMS) using a Communication Package such as PROCOM PLUS and KERMIT protocol for transferring the data.

COMMAND DESCRIPTION

The KERMIT command allows you to control KERMIT file transfers. These commands are to be executed from your local machine by doing your escape function.

gk	- Get files from KERMIT server
xk	- Send files to KERMIT server
ke finish	- Finish KERMIT server session

000126

You may see a message saying "you have mail", please disregard. Some other messages you may disregard are:

WARNING: Number of records processed not equal to count on file trailer.

WARNING: commands will be executed using /bin/sh

Input file specified as /home/xx1234/xx_SRC.run.
with xx1234 being your login and xx_src is a service order processor.

COMMUNICATIONS PARAMETERS

Speed 2400 or 9.6	Parity None	DUPlex Full
Data 8	STop 1	EMulate VT-100
Port X		Mode Call

LOGIN

A telephone number for accessing the SWBT FR/DBMS is being established. SWBT will provide you with this number at the time you are given the Packet Address, Packet Password, LOGIN and temporary password for the FR/DBMS.

The FR/DBMS is a UNIX (R) system and therefore uses lower case.

When you first connect you may see some garbage, it is just the modem auto-bauding.

The following page outlines the procedures for logging in to the FR/DBMS.

PROCEDURES FOR LOGIN:

DIAL NUMBER PROVIDE BY SWB - Once connection is made you should see PROCOM PLUS on-line to packet at 9600

(YOU MAY SEE GARBAGE) TYPE ... <CR> for 7 bits even parity
TYPE o for 8 bits no parity one
stop bit/full duplex

Welcome to MicroLink II
-02666:01-037-
pad ready

* ENTER THE PACKET ADDRESS and PASSWORD
(provided by SWBT)

000137

Example of address - *nXXXXXXXXXX;NNNNNN-XXXXXXXXXX <CR> (Only n-XXXXXXXXXX will echo back)

x.29 Terminal Service

Login: XXXXXX ENTER YOUR LOGIN <CR>(provided by SWBT)

PASSWORD: XXXXXXXXXXXX ENTER PASSWORD (MUST CONTAIN ALPHA AND AT LEAST ONE NUMERIC; MINIMUM OF 6 CHARACTERS MAXIMUM OF 10)

* Initial password will be provided by SWBT, it will expire on the initial login

UNIX System V Release 3.2.0 i386

dlbdbms

Copyright (c) 1984 AT&T

All Rights Reserved

Last login successfully completed at Wed Nov 10 19:26:24 1993

DYNIX/ptx(R) V2.0.4 #7 ():Wed Oct 27 17:25:28 CDT 1993

Copyright 1988 Sequent Computer Systems, Inc.

```
*****
*   This is a Southwestern Bell Telephone Company   *
*   system restricted to company official business  *
*   and subject to being monitored at any time.      *
*****
```

SPECIAL CPNI WARNING!!!!

This system accesses Customer Proprietary Network Information (CPNI), including CPNI restricted by customer request, and prohibited from access, viewing or use by certain Sales Personnel.

SALES PERSONNEL SHOULD PROCEED BEYOND THIS POINT ONLY IN ACCORDANCE WITH CPNI COMPLIANCE REQUIREMENTS.

ENTER TERMINAL TYPE (unknown)? (you must enter vt100)

C-Kermit server starting. Return to your local machine by typing its escape sequence for closing the connection,, and issue further commands from there. To shut down the C-Kermit server, issue the FINISH or BYE command and the reconnect.

FILE NAMES AND FORMAT

Initial input files: xxxx###?.dat
 Copy of input file: xxxx###?.done (created after the .dat file is
 Error files: xxxx###?.err
 Statistics files: xxxx###?.sta

Where xxxx = a UNIX ID assigned by the FR/DBMS
 ### = a three digit Julian date
 ? = a one digit sequence number starting at 0

NOTE: A COMPARE file can be created from the FR/DBMS and put in your home directory. This can be used to compare the data in the FR/DBMS against your billing system. This file is pulled upon request, no more than once a quarter. Compare file: xxx###?.CMP

The following is the layout of these files:

FR/DBMS .dat FILE OUTPUT FORMAT

COLUMN	LENGTH	DATA/TYPE	NAME OF FIELD
1	1	A	Function of change A=ALPHA
2	3	N	NPA N=NUMERIC
5	7	N	Calling Number AN=ALPHA/NUMERIC
12	10	N	House Number B=BLANK
22	4	AN	House Number Suffix
26	2	A	Prefix Directional
28	40	A	Street Name (INCLUDE STREET SUFFIX)
68	4	A	Street Suffix (DO NOT USE)
72	2	A	Post Directional (DO NOT USE)
74	32	A	Community
106	2	A	State
108	20	AN	Location Information
128	32	AN	Customer Name
160	1	N	Class of Service
161	1	N	Type of Service
162	4	AN	Exchange
166	5	N	ESN
171	3	N	Main NPA
174	3	N	Main NNX
177	4	N	Main TN
181	10	AN	Order Number
191	6	N	Extract Date
197	4	AN	County Identification Code
201	5	AN	Telephone Company ID
206	1	AN	Source ID
207	5	AN	Zip Code
212	4	AN	Zip Code Extension

216	11	AN	General Use
227	13	AN	Telco USE (Insert 4 digit Cus.Code)
240	1	A	Always an asterisk(*)

Each Record is 240 characters long and in ASCII format.
All fields are left-justified, with trailing spaces.

Class of Service Type of Service

1 = Residence	0 = Not foreign Exchange (FXS)
2 = Business	or Non PUB (NP)
3 = Residence PBX	1 = FXS inside of 911 Area
4 = Business PBX	2 = FXS outside of 911 Area
5 = Centrex	3 = Non PUB
6 = Semi Public Coin	4 = Non PUB FXS inside 911 Area
7 = Coin	5 = Non PUB FXS outside 911 Area
8 = Mobile	
9 = Residence Pots with Off Premises Extension	
0 = Business Pots with Off Premises Extension	

FR/DBMS TN ERROR FILE OUTPUT FORMAT

Name of field	Column	Length
Error code	1	3
Error Indicator	5	10
Function of Change	16	1
NPA	19	3
NNX	24	3
TN	28	4
Customer Code	33	3
House Number	37	10
House Number Suffix	48	4
Prefix Directional	53	2
Street Name	56	48
Suffix Directional	105	2
Community	108	32
County Identifier	141	4
State	146	2
Customer Name	149	32
Class of Service	182	1
Type of Service	184	1
Exchange	186	4
ESN	191	6
ESSID	198	2
ESN Origin	201	1
Main NPA	204	3

000140

Main NNX	209	3
Main TN	213	4
Location Information	218	20
Operating Telco Field	239	35
MSAG Comment	275	40
Order Number	316	10
Date/Time	327	19
Supplemental Data Flag	347	1
Location/Comment Flag	349	1

NOTE: ERROR FILES SHOULD BE CLEARED DAILY BEFORE TRANSMISSION OF A NEW FILE. THESE ERROR FILES WILL BE DELETED AUTOMATICALLY AFTER 14 DAYS.

FR/DBMS .sta FILE OUTPUT FORMAT

Input file specified as /home/XX2001/LD_SRC.run.

Mon Nov 15 15:15:09 1993 318

Warning: Number of records processed not equal to count on file trailer.

26 records processed, trailer count is missing.

Warning: Unable to move input file to boneyard.

-----0700

0 701 errors	0 720 errors	0 742 errors
0 702 errors	0 721 errors	0 743 errors
0 703 errors	0 723 errors	0 744 errors
0 704 errors	0 725 errors	0 745 errors
0 705 errors	0 732 errors	0 746 errors
0 706 errors	0 737 errors	0 800 errors
0 707 errors	0 738 errors	0 819 errors
0 709 errors	0 739 errors	0 825 errors
0 710 errors	0 740 errors	0 833 errors
0 711 errors		
26 Records processed	0 Total errors	

FR/DBMS .CMP FILE DATA RECORD LAYOUT

Name of Field	Field Type	Maximum Length
Local Service Provider_name		A
Local Service Provider_code		N
npa	N	3
nnx	N	3
tn	N	4
customer_name	AN	32

000141

customer_code	N	4
house_number	N	10
house_number_sufx	AN	4
prefix_directional	A	2
street_name	A	48
suffix_directional	A	2
community	A	32
county	AN	4
state	A	2
class_of_service	N	1
type_of_service	N	1
exchange	AN	4
esn	N	10
essid	AN	2
esn_origin	A	1
main_npa	N	3
main_nnx	N	3
main_tn	N	4
location	AN	20
telco	AN	35
msag_comments	AN	40
service_order_src	N	5
modification_date	date (year to second)	19(YYYY-MM-DD
user_id	N	5
sd_present	A	1
loccom	A	1

NOTE: These records are in ASCII format and are variable in length, with each record separated by a newline character (\n). Each field is delimited by a pipe symbol (|). Trailing blanks have been removed from all character fields.

The data records are sorted in database_code, npa, nnx, tn order.

FR/DEMS ERROR CODES

700 Illegal function of change. The valid functions of change for telephone number records are (I)nsert, (C)hange, and (D)elite. This is considered a data error.

701 No MSAG record found. No MSAG record was found for this address. This includes cases where the street name does not exist in the MSAG and where the street exists, but the ranges do not cover the current address. This error code replaces the error codes 701 and 709 from the PDP DMS system.

000143

- 702 Record already exists. An attempt was made to insert a telephone number that already exists.
- 703 Main record not found. An attempt was made to insert or change a subsidiary whose main telephone number does not exist in the database.
- 704 Telephone number record doesn't exist on a delete. an attempt was made to delete a telephone number record which does not exist in the database.
- 705 Record does not exist on a pilot delete. An attempt was made to perform a pilot delete on a main telephone number that does not exist in the database.
- 706 Service order error field is populated. The service order error field is populated with some non-space character(s). The meaning of this error field is implementation specific.
- 707 Subsidiary customer code mismatch. An attempt was made to insert a subsidiary with a different customer code than its main telephone number record.
- 709 Telephone number record has no supporting MSAG record. An MSAG delete was performed that left this telephone number with no underlying MSAG record.
- 710 Customer codes do not match on a change. The customer code on a change to a telephone number record does not match the customer code of the existing record.
- 711 Customer codes do not match on a delete. The customer code on a delete or pilot delete operation does not match the customer code of the record to be
- 712 Record does not exist for a change. An attempt was made to change a telephone number record which does not exist in the database.
- 720 NPA to NPD translation not found. The NPD translation for the current NPA does not exist in the NPA to NPD translation table.

- 721 Type of service is a foreign exchange. The number belongs to a foreign exchange, i.e. the type of service is a 2 or 5.
- 723 NPANNX to ESSID translation not found. The translation for the given NPANNX was not found in the NPANNX to ESSID translation table..
- 725 Service order error field shows an error - this error code is valid only on the PDP DMS. This error code should only appear on error records that have
- 732 Multiple MSAG record exchange matches found. An attempt to insert or change a record with no community name was made. While trying to query the MSAG to match based on the address and exchange, multiple records were found.
- 737 Exchange matching failed to find a unique MSAG record. The MSAG was queried using the address and community name with the exchange matching feature turned on. Multiple address and community name matches were found, and the exchange was used to try and find a unique MSAG record. There were no MSAG records found with the same address, community, and exchange.
- 738 Attempted to change a main number to a subsidiary line. The record in error is currently a main number with subsidiaries in the database. The attempted change would make this number into a subsidiary of another line. This would leave the original subsidiaries without a valid main number.
- 739 Street names do not match on a delete. The street name in the delete record does not match the street name in the database. If a delete record has a street name present, it must match the street name of the record in the database. The street name is not a required field on a delete.
- 740 Delete attempted on a number with subsidiaries. A function of change "D" was attempted on phone number which has subsidiaries. All of its subsidiaries must be deleted before attempting to delete the main.

- 741 Main number is already a subsidiary line. An attempt was made to insert a subsidiary whose main number is already a subsidiary to another line. This would leave this number without a valid main number.
- 742 Routing table entry not found for a subsidiary. A subsidiary line was inserted with the same address as the main and the main's ESN was assigned from the routing table. While trying to inherit the main's ESN, the routing table entry was not found.
- 743 Function of change (F)inal would result in a pilot delete. A (F)inal transaction was attempted that would result in the delete of an entire pilot-subsidiary group. This action must be accomplished with a (P)ilot delete record.
- 744 (P)ilot Delete attempted on a subsidiary line. A (P)ilot delete can not be performed on a subsidiary line. If the intent was to delete the entire pilot-subsidiary group, a (P)ilot delete should be performed on the main number. If the intent was to delete the subsidiary line only, a (D)elete should be performed on the subsidiary line.
- 745 Function of change other than (I)nsert attempted during an initial load. During an initial load, no function of change other than (I)nsert is allowed.
- 746 NPANNX to ALI-ID relationship is missing. Every NPANNX must have an entry in the NPANNX to ALI-ID table to specify which ALI system should be updated.
- 748 Telco TN Range Violation: A telco service order record, or a record from the TN or Error screen in the Clerk interface, has a telephone number that is in a range assigned to a private switch or Local Service Provider. This is an illegal operation for the service order processor or any FR/DBMS user except an FR/DBMS Administrator.
- 749 Local Service Provider/Private Switch TN Range Violation: A service order record from a private switch has a telephone number that does not fall in one of the telephone number ranges granted to that private switch.
- 750 Invalid Local Service Provider/Private Switch Range: A service order record from a private switch contains a telephone number that is in a range assigned to some other private switch.

- 800 English Language Translation not found. The English Language Translation for the current ESN/ESSID combination was not found. This is an informational error, therefore the operation was performed despite this error occurring.
- 819 Subsidiary line unchanged. A change was made to this subsidiary line's main number. This is an informational error. If the change should not be applied to the subsidiary line, this error record should be deleted.
- 825 Location comment flag set on a change. An attempt was made to change a record which has the location comment flag set. This is an informational error, therefore the record was processed but the location and telco comment fields remained unchanged.
- 833 Location comment flag set on a delete. The location comment flag was set on a deleted record. This is an informational error, therefore the record was deleted despite this error occurring. This may result from a delete or pilot delete. In the case of a deleted subsidiary during a pilot delete, the subsidiary's record will appear in the error table.

PROCESS FOR TRANSMITTING AND RETRIEVING DATA

TRANSMITTING FILES:

You will dial into the FR/DBMS using the number provided by SWBT.

PROCOM PLUS on-line to packet at 9600
xxxxxx (garbage) TYPE ... or o

Welcome to MicroLink II

-02666:01-037-

pad ready

* n-XXXXXXXXXX;XXXXXXXX-XXXXXXXXXX (only n-XXXXXXXXXX will echo)

X.29 Terminal Service

Login: XXXXXX

Password: XXXXXXXX

UNIX System V Release 3.2.0 i386

dlsdbms

Copyright (c) 1984 AT&T

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Last login successfully competed at Wed Nov 10 16:21:00 1993

DYNIX/ptx(R) V2.0.4 #7 ():Wed Oct 27 17:25:28 CDT 1993

Copyright 1988 Sequent Computer Systems, Inc.

```
*****
*   This is a Southwestern Bell Telephone Company   *
*   system restricted to company official business   *
*   and subject to being monitored at any time.     *
*****
```

SPECIAL CPNI WARNING!!!!

This system accesses Customer Proprietary Network Information (CPNI), including CPNI restricted by customer request, and prohibited from access, viewing or use by certain Sales Personnel.

SALES PERSONNEL SHOULD PROCEED BEYOND THIS POINT ONLY IN ACCORDANCE WITH CPNI COMPLIANCE REQUIREMENTS.

ENTER TERMINAL TYPE (vt100)?

C-Kermit server starting. Return to your local machine by typing its escape sequence for closing the connection, and issue further commands from there. To shut down the C-Kermit server, issue the FINISH or BYE command and then reconnect.

N#

xk XXXXXXXX.dat

Transmitting XXXXXXXX.DAT:

Block #	% complete	Consec. errors	Total errors
4	100%	none	none

1 file(S) transferred.

At this point your file has been successfully transferred.

000147

RETRIEVING FILES:

Dial into the FR/DBMS using the number provided by SWBT.

PROCOM PLUS on-line to packet at 9600

XXXXXXX (garbage) - TYPE ... or o

Welcome to MicroLink II

-02666:01-037-

pad ready

*nXXXXXXXXXX;XXXXXXXX-XXXXXXXXXX (only n-XXXXXXXXXX will echo back)

X.29 Terminal Service

Login:XXXXXX

Password: XXXXXXXX

UNIX System V Release 3.2.0 i386

dlsdbms

Copyright (c) 1984 AT&T

All Rights Reserved

Last login successfully completed at Wed Nov 10 19:26:24 1993

DYNIX/ptx(R) V2.0.4 #7 (): Wed Oct 27 17:25:28 CDT 1993

Copyright 1988 Sequent Computer Systems, Inc.

```
*****
*
*   This is a Southwestern Bell Telephone Company
*   system restricted to company official business
*   and subject to being monitored at any time.
*
*****
```

SPECIAL CPNI WARNING!!!!

This system accesses Customer Proprietary Network Information (CPNI), including CPNI restricted by customer request, and prohibited from access, viewing or use by certain Sales Personnel.

SALES PERSONNEL SHOULD PROCEED BEYOND THIS POINT ONLY IN ACCORDANCE WITH CPNI COMPLIANCE REQUIREMENTS.

ENTER TERMINAL TYPE (vt100)?

XXXXXXXXX.done XXXXXXXXX.err XXXXXXXXX.sta XXXXXXXX.CMP

--No more--[Hit any key to continue]

C-Kermit server starting. Return to your local machine by typing its escape sequence for closing the connection, and issue further commands from there. To shut down the C-Kermit server, issue the FINISH or BYE command and then reconnect.

N3

gk XXXXXXXX.sta

Receiving XXXXXXXX.STA:

Block #	% complete	Consec. errors	Total errors
10	--	none	none

1 file(s) transferred.

#-B4

gk XXXXXXXX.err

Receiving XXXXXXXX.ERR:

Block #	% complete	Consec. errors	Total Errors
2	--	none	none

1 file(s) transferred.

#3B,

NOTE: When you login and you only have a .done file this indicates the file could not be processed - Review your file for layout errors correct and resend.

When files have been retrieved issue the finish command from the command line:

ke finish

C-Kermit Server done

network: call cleared by request

please login:

000149

You will establish your daily routine of sending files and retrieving files. Multiple files can be sent daily and when you log in you will know if you have files to retrieve.

Remember to log off you issue the command to finish Kermit server session.

ke finish This will log you off FR/DBMS.

When you log off the system an automatic mail message will be sent to the System Administrator advising him/her that there is a file to process.

NOTE: Files returned to you will remain on the system for 2 weeks.

NENA RECOMMENDED FORMAT
FOR DATA EXCHANGE
(VERSION 1)

<u>FIELD NAME</u>	<u>POSITION</u>	<u>BYTES</u>	<u>TYPE</u>	<u>DESCRIPTION</u>
FUNCTION CODE	1	1	A	TYPE OF ACTIVITY THE RECORD IS BEING SUBMITTED FOR. VALID ENTRIES: C CHANGE D DELETE I INSERT
NPA	2-4	3	N	THREE DIGIT AREA CODE OF THE CALLING NUMBER.
CALLING NUMBER	5-11	7	N	SEVEN DIGIT TELEPHONE NUMBER OF THE CALLING NUMBER.
HOUSE NUMBER	12-21	10	AN	HOUSE NUMBER. THE FIELD SHOULD BE SPACE FILLED IF NO HOUSE NUMBER IS AVAILABLE.

NOTE: ALTHOUGH THE HOUSE NUMBER FIELD IS TEN CHARACTERS, IT IS UNDERSTOOD THAT TELEPHONE COMPANIES MAY ONLY SUPPORT UP TO 8 CHARACTERS.

HOUSE NUMBER SUFFIX	22-25	4	AN	HOUSE NUMBER EXTENSION (EG.1/2). THE FIELD SHOULD BE SPACE FILLED IF NO SUFFIX APPLIES.
PREFIX DIRECTIONAL	26-27	2	A	LEADING STREET DIRECTION PREFIX. THE FIELD SHOULD BE SPACE FILLED IF NO PREFIX APPLIES. VALID ENTRIES: N S E W NE NW SE SW
STREET NAME	28-67	40	AN	VALID SERVICE ADDRESS OF THE CALLING NUMBER.
STREET SUFFIX	68-71 NOTE: A/O 11/95	4	A	VALID STREET ABBREVIATION,

BE USED -

THIS FIELD SHOULD

AS DEFINED BY THE U.S.

POSTAL SERVICE PUBLICATION NO

28. (EG.AVE)

INCLUDE IN

STREET NAME

POST DIRECTIONAL

72-73 2 A

TRAILING STREET DIRECTION

NOTE: A/O 11/95

SUFFIX. THE FIELD SHOULD

THIS FIELD SHOULD

BE SPACE FILLED IF NO NC

BE USED -

SUFFIX APPLIES.

INCLUDE IN

VALID ENTRIES: N S E W

STREET NAME

NE NW SE SW

COMMUNITY NAME

74-105 32 A

VALID SERVICE COMMUNITY
OF THE STREET NAME/HOUSE
NUMBER AS DESIGNATED BY
THE MSAG.

NENA RECOMMENDED FORMAT
FOR DATA EXCHANGE
(VERSION 1)

<u>FIELD NAME</u>	<u>POSITION</u>	<u>BYTES</u>	<u>TYPE</u>	<u>DESCRIPTION</u>
State	106-107	2	A	Alpha state abbreviation (eg.TX)
Location	108-127	20	AN	Additional address information (free formatted) describing the exact location of the Calling Number (eg.Apt 718).
Customer Name	128-159	32	AN	Subscriber name associated with the Calling Number.
Class of	160	1	AN	Value of:

000152

Service				1=Residence	6=Coin 1W out
				2=Business	7=Coin 2Way
				3=Residence PBX	8=Mobile
				4=Business PBX	9=Residence
OPX				5=Centrex	0=Business Of
Type of Service	161	1	N	Value of:	
				0=Not FX nor Non-Pub	
				1=FX in 911 serving area	
				2=FXoutside 911 serving area	
				3=Non-Pub	
				4=Non-Pub FX in 911 serving	
area				5=Non-Pub FX outside 911	
serving area					
Exchange	162-165	4	AN	Phone company exchange identifier for the serving telephone office of the customer	
ESN	166-170	5	AN	Emergency Service Number associated with the House Number and Street Name.	
NOTE: ESN field may be space filled when the receiving data partner is validating the address. The telephone company providing the E9-1-1 tandem routing will provide a list of ESN's available for assignment.					
Main NPA	171-173	3	N	Three digit area code of the Main Number associated with the Calling Number.	
Main Number	174-180	7	N	Seven Digit telephone number of the Main Number associated with the Calling Number.	
Order Number	181-190	10	AN	Service order number for the activity establishing this record.	