

APPENDIX NIM (NETWORK INTERCONNECTION METHODS)

TABLE OF CONTENTS

1. INTRODUCTION	3
2. NETWORK INTERCONNECTION ARCHITECTURE PLAN	5
3. METHODS OF INTERCONNECTION.....	6
4. RESPONSIBILITIES OF THE PARTIES	7
5.0 LEASING OF FACILITIES	8
6.0 OUT OF EXCHANGE TRAFFIC.....	8

APPENDIX NIM (NETWORK INTERCONNECTION METHODS)

1. INTRODUCTION

- 1.1 This Appendix sets forth the terms and conditions that Network Interconnection Methods (NIM) is provided by the applicable SBC Communications Inc. (SBC) owned Incumbent Local Exchange Carrier (ILEC) and CLEC. This Appendix describes the physical architecture for Interconnection of the Parties' facilities and equipment for the transmission and routing of Telephone Exchange Service traffic and Exchange Access traffic between the respective Customers of the Parties pursuant to Section 251(c)(2) of the Act; provided, however, Interconnection may not be used solely for the purpose of originating a Party's own interexchange traffic.
- 1.2 **SBC Communications Inc. (SBC)** means the holding company which directly or indirectly owns the following ILECs: Illinois Bell Telephone Company d/b/a SBC Illinois, Indiana Bell Telephone Company Incorporated d/b/a SBC Indiana, Michigan Bell Telephone Company d/b/a SBC Michigan, Nevada Bell Telephone Company d/b/a SBC Nevada, The Ohio Bell Telephone Company d/b/a SBC Ohio, Pacific Bell Telephone Company d/b/a SBC California, The Southern New England Telephone Company d/b/a SBC Connecticut, Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, SBC Kansas, SBC Missouri, SBC Oklahoma and/or SBC Texas and/or Wisconsin Bell, Inc. d/b/a SBC Wisconsin.
- 1.3 **SBC-2STATE** - As used herein, **SBC-2STATE** means **SBC CALIFORNIA** and **SBC NEVADA**, the applicable SBC-owned ILEC(s) doing business in California and Nevada.
- 1.4 **SBC-4STATE** - As used herein, **SBC-4STATE** means Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, SBC Kansas, SBC Missouri, and SBC Oklahoma the applicable SBC-owned ILEC(s) doing business in Arkansas, Kansas, Missouri and Oklahoma.
- 1.5 **SBC-7STATE** - As used herein, **SBC-7STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC CALIFORNIA** and **SBC NEVADA**, the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Kansas, Missouri, Nevada, Oklahoma, and Texas.
- 1.6 **SBC-8STATE** - As used herein, **SBC-8STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC CALIFORNIA**, **SBC NEVADA**, and **SBC CONNECTICUT** the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Connecticut, Kansas, Missouri, Nevada, Oklahoma, and Texas.
- 1.7 **SBC-10STATE** - As used herein, **SBC-10STATE** means **SBC SOUTHWEST REGION 5-STATE** and **SBC MIDWEST REGION 5-STATE** an the applicable SBC-owned ILEC(s) doing business in Arkansas, Illinois, Indiana, Kansas, Michigan, Missouri, Ohio, Oklahoma, Texas, and Wisconsin.
- 1.8 **SBC-12STATE** - As used herein, **SBC-12STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC MIDWEST REGION 5-STATE** and **SBC-2STATE** the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Illinois, Indiana, Kansas, Michigan, Missouri, Nevada, Ohio, Oklahoma, Texas, and Wisconsin.
- 1.9 **SBC-13STATE** - As used herein, **SBC-13STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC MIDWEST REGION 5-STATE**, **SBC-2STATE** and **SBC CONNECTICUT** the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Connecticut, Illinois, Indiana, Kansas, Michigan, Missouri, Nevada, Ohio, Oklahoma, Texas, and Wisconsin.
- 1.10 **SBC ARKANSAS** - As used herein, **SBC ARKANSAS** means Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, the applicable SBC-owned ILEC doing business in Arkansas.
- 1.11 **SBC CALIFORNIA** - As used herein, **SBC CALIFORNIA** means Pacific Bell Telephone Company d/b/a SBC California, the applicable SBC-owned ILEC doing business in California.
- 1.12 **SBC CONNECTICUT** - As used herein, **SBC CONNECTICUT** means The Southern New England Telephone Company, the applicable above listed ILEC doing business in Connecticut.

- 1.13 **SBC KANSAS** - As used herein, **SBC KANSAS** means Southwestern Bell Telephone, L.P. d/b/a SBC Kansas, the applicable SBC-owned ILEC doing business in Kansas.
- 1.14 **SBC ILLINOIS** - As used herein, **SBC ILLINOIS** means Illinois Bell Telephone Company d/b/a SBC Illinois, the applicable SBC-owned ILEC doing business in Illinois.
- 1.15 **SBC INDIANA** - As used herein, **SBC INDIANA** means Indiana Bell Telephone Company Incorporated d/b/a SBC Indiana, the applicable SBC-owned ILEC doing business in Indiana.
- 1.16 **SBC MICHIGAN** - As used herein, **SBC MICHIGAN** means Michigan Bell Telephone Company d/b/a SBC Michigan, the applicable SBC-owned doing business in Michigan.
- 1.17 **SBC MIDWEST REGION 5-STATE** - As used herein, **SBC MIDWEST REGION 5-STATE** means Illinois Bell Telephone Company d/b/a SBC Illinois, Indiana Bell Telephone Company Incorporated d/b/a SBC Indiana, Michigan Bell Telephone Company d/b/a SBC Michigan, The Ohio Bell Telephone Company d/b/a SBC Ohio, and/or Wisconsin Bell, Inc. d/b/a SBC Wisconsin, the applicable SBC-owned ILEC(s) doing business in Illinois, Indiana, Michigan, Ohio, and Wisconsin.
- 1.18 **SBC MISSOURI** - As used herein, **SBC MISSOURI** means Southwestern Bell Telephone, L.P. d/b/a SBC Missouri, the applicable SBC-owned ILEC doing business in Missouri.
- 1.19 **SBC NEVADA** - As used herein, **SBC NEVADA** means Nevada Bell Telephone Company d/b/a SBC Nevada, the applicable SBC-owned ILEC doing business in Nevada.
- 1.20 **SBC OHIO** - As used herein, **SBC OHIO** means The Ohio Bell Telephone Company d/b/a SBC Ohio, the applicable SBC-owned ILEC doing business in Ohio.
- 1.21 **SBC OKLAHOMA** - As used herein, **SBC OKLAHOMA** means Southwestern Bell Telephone, L.P. d/b/a SBC Oklahoma, the applicable SBC-owned ILEC doing business in Oklahoma.
- 1.22 **SBC SOUTHWEST REGION 5-STATE** - As used herein, **SBC SOUTHWEST REGION 5-STATE** means Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, SBC Kansas, SBC Missouri, SBC Oklahoma and/or SBC Texas the applicable above listed ILEC(s) doing business in Arkansas, Kansas, Missouri, Oklahoma, and Texas.
- 1.23 **SBC TEXAS** - As used herein, **SBC TEXAS** means Southwestern Bell Telephone, L.P. d/b/a SBC Texas, the applicable SBC-owned ILEC doing business in Texas.
- 1.24 **SBC WISCONSIN** - As used herein, **SBC WISCONSIN** means Wisconsin Bell, Inc. d/b/a SBC Wisconsin, the applicable SBC-owned ILEC doing business in Wisconsin.
- 1.25 **Network Interconnection Methods** (NIMs) include, but are not limited to, Physical Collocation Interconnection; Virtual Collocation Interconnection; Leased Facilities Interconnection; Fiber Meet Interconnection; and other methods as mutually agreed to by the Parties. One or more of these methods may be used to effect the Interconnection.
 - 1.25.1 Trunking requirements associated with Interconnection are contained in Appendix ITR.
 - 1.25.2 The terms and conditions associated with access to Lawful Unbundled Network Elements (Lawful UNEs) are not found in Appendix NIM, but are contained in Appendix Lawful UNEs. **SBC CONNECTICUT** Unbundled Network Elements are offered via the Connecticut Access Tariff.
- 1.26 **SBC-13STATE** shall provide Interconnection for CLEC's facilities and equipment for the transmission and routing of telephone exchange service and exchange access, at a level of quality that is equal to that which **SBC-13STATE** provides itself, a subsidiary, an affiliate, or any other party to which **SBC-13STATE** provides Interconnection and on rates, terms and conditions that are just, reasonable and non-discriminatory.
- 1.27 The Parties shall effect an Interconnection that is efficient, fair and equitable with each party being financially responsible for approximately half of the Interconnection facilities or in any other manner that is mutually agreeable to the Parties.

2. NETWORK INTERCONNECTION ARCHITECTURE PLAN

- 2.1 **SBC-13STATE's** network is partly comprised of End Office switches, Tandem switches that serve local only traffic (**SBC SOUTHWEST REGION 5-STATE**), Tandem switches that serve IntraLATA and InterLATA traffic, and Tandem switches that serve a combination of local, IntraLATA and InterLATA traffic. **SBC-13STATE's** network architecture in any given local exchange area and/or LATA can vary markedly from another local exchange area/LATA. Using one or more of the NIMs herein, the Parties will agree to a physical architecture plan for a specific Interconnection area. Due to differing state regulatory calling scope requirements, **SBC SOUTHWEST REGION 5-STATE** requires Interconnection in each local exchange area, while **SBC CONNECTICUT**, **SBC CALIFORNIA**, **SBC NEVADA** and **SBC MIDWEST REGION 5-STATE** require Interconnection at all Tandems in a LATA. CLEC and **SBC-13STATE** agree to Interconnect their networks through existing and/or new Interconnection facilities between CLEC switch(es) and **SBC-13STATE** End Office(s) and/or Tandem switch(es). The physical architecture plan will, at a minimum, include the location of CLEC's switch(es) and **SBC-13STATE's** End Office switch(es) and/or Tandem switch(es) to be interconnected, the facilities that will connect the two networks and which Party will provide (be financially responsible for) the Interconnection facilities. At the time of implementation in a given local exchange area the plan will be documented and signed by appropriate representatives of the Parties, indicating their mutual agreement to the physical architecture plan.
- 2.2 **Points of Interconnection (POIs):** A Point of Interconnection (POI) is a point in the network where the Parties deliver Interconnection traffic to each other, and also serves as a demarcation point between the facilities that each Party is responsible to provide. In many cases, multiple POI(s) will be necessary to balance the facilities investment and provide the best technical implementation of Interconnection requirements to each Tandem within an exchange area and/or LATA. Both parties shall negotiate the architecture in each location that will seek to mutually minimize and equalize investment.
- 2.3 The Parties agree to meet as often as necessary to negotiate the selection of new POIs. The overall goal of POI selection will be to achieve a balance in the provision of facilities that is fair to both Parties. Criteria to be used in determining POIs for each geography (LATA, tandem area, etc.) include existing facility capacity, location of existing POIs, traffic volumes, relative costs, future capacity needs, etc. Agreement to the location of POIs is based on the network architecture existing at the time the POI(s) is/are negotiated. In the event either Party makes subsequent changes to its network architecture, including but not limited to trunking changes or adding new switches, then the Parties will negotiate new POIs. The mutually agreed to POIs will be documented and distributed to both Parties.
- 2.4 Each Party is responsible for the facilities to its side of the negotiated POI(s) and may utilize any method of Interconnection described in this Appendix. Each Party is responsible for the appropriate sizing, operation, and maintenance of the transport facility to the POI(s). The parties agree to provide sufficient facilities for the Interconnection trunk groups required for the exchange of traffic between CLEC and **SBC-13STATE**.
- 2.5 Either Party, must provide thirty (30) days written notice of any intent to change to the physical architecture plan.
- 2.6 CLEC is solely responsible for the facilities that carry OS/DA, 911, mass calling and Meet-Point trunk groups as specified in Appendix ITR.
- 2.7 If CLEC has established Collocation in an **SBC-13STATE** End Office, the facility for the Direct End Office Trunks (DEOTS) to that End Office shall be the financial responsibility of CLEC.
- 2.8 **Technical Interfaces**
- 2.8.1 The Interconnection facilities provided by each Party shall be formatted using either Alternate Mark Inversion (AMI) line code with Superframe format framing or Bipolar 8 Zero Signaling (B8ZS) with Extended Superframe format framing or any mutually agreeable line coding and framing.
- 2.8.2 Electrical handoffs at the POI(s) will be at the DS1 or DS3 level. When a DS3 handoff is agreed to by the Parties, **SBC-13STATE** will provide any multiplexing required for DS1 facilities or trunking at their end and CLEC will provide any DS1 multiplexing required for facilities or trunking at their end.

- 2.8.3 When the Parties demonstrate the need for Optical handoffs at the OC-n level, the parties will meet to negotiate specific Optical handoff needs.

3. METHODS OF INTERCONNECTION

3.1 Physical Collocation Interconnection

- 3.1.1 When CLEC provides their own facilities or uses the facilities of a 3rd party to a **SBC-13STATE** Tandem or End Office and wishes to place their own transport terminating equipment at that location, CLEC may Interconnect using the provisions of Physical Collocation as set forth in Appendix Physical Collocation or applicable state tariff.

3.2 Virtual Collocation Interconnection

- 3.2.1 When CLEC provides their own facilities or uses the facilities of a 3rd party to a **SBC-13STATE** Tandem or End Office and wishes for **SBC-13STATE** to place transport terminating equipment at that location on the CLEC's behalf, they may Interconnect using the provisions of Virtual Collocation as set forth in Appendix Virtual Collocation or applicable state tariff. Virtual Collocation allows CLEC to choose the equipment vendor and does not require that CLEC be Physically Collocated.

3.3 Leased Facility Interconnection ("LFI")

- 3.3.1 Where facilities are available, CLEC may lease facilities from **SBC-13STATE** as defined in Section 5 of this Appendix.

3.4 Fiber Meet Interconnection

- 3.4.1 Fiber Meet Interconnection between **SBC-13STATE** and CLEC can occur at any mutually agreeable and technically feasible point between CLEC's premises and an **SBC-13STATE** Tandem or End Office within each local exchange area (**SBC SOUTHWEST REGION 5-STATE**) or LATA (**SBC MIDWEST REGION 5-STATE**, **SBC CONNECTICUT**, **SBC CALIFORNIA** and **SBC NEVADA**).
- 3.4.2 When the Parties agree to interconnect their networks pursuant to the Fiber Meet, a single point-to-point linear chain SONET system must be utilized. Only Interconnection trunking shall be provisioned over this jointly provided facility.
- 3.4.3 Neither Party will be allowed to access the Data Communications Channel ("DCC") of the other Party's Fiber Optic Terminal (FOT). The Fiber Meet will be designed so that each Party may, as far as is technically feasible, independently select the transmission, multiplexing, and fiber terminating equipment to be used on its side of the POI(s). The Parties will work cooperatively to achieve equipment and vendor compatibility of the FOT equipment.
- 3.4.4 Requirements for such Interconnection specifications will be defined in joint engineering planning sessions between the Parties. The Parties may share the investment of the fiber as mutually agreed.
- 3.4.5 In addition to the semi-annual trunk forecast process, discussed in Appendix ITR, discussions to provide relief to existing facilities can be initiated by either party. Actual system augmentations will be initiated only upon mutual agreement. Facilities will be planned for to accommodate the verified and mutually agreed upon trunk forecast.
- 3.4.6 Both Parties will negotiate a project service date and corresponding work schedule to construct relief facilities prior to facilities exhaust.
- 3.4.7 There are two basic Fiber Meet design options. The option selected must be mutually agreeable to both Parties. Additional arrangements may be mutually developed and agreed to by the Parties pursuant to the requirements of this section.
- 3.4.7.1 Design One: CLEC will provide fiber cable to the last entrance (or **SBC-13STATE** designated) manhole at the **SBC-13STATE** Tandem or End Office switch. **SBC-13STATE** shall make all necessary preparations to receive and to allow and enable CLEC to deliver fiber optic facilities into that manhole. CLEC will provide a sufficient length of Fiber cable for **SBC-13STATE** to pull through the **SBC-13STATE** cable vault. CLEC shall deliver and

maintain such strands wholly at its own expense up to the POI. **SBC-13STATE** shall take the fiber from the manhole and terminate it inside **SBC-13STATE**'s office at the cable vault at **SBC-13STATE**'s expense. In this case the POI shall be at the **SBC-13STATE** designated manhole location.

3.4.7.2 Design Two: Both CLEC and **SBC-13STATE** each provide two fibers between their locations to terminate at each parties' FOT. This design may only be considered where existing fibers are available and there is a mutual benefit to both Parties. **SBC-13STATE** will provide the fibers associated with the working side of the system. CLEC will provide the fibers associated with the protection side of the system. The Parties will work cooperatively to terminate each other's fiber in order to provision this joint point-to-point linear chain SONET system. Both Parties will work cooperatively to determine the appropriate technical handoff for purposes of demarcation and fault isolation. The POI will be defined as being at the **SBC-13STATE** location.

3.4.8 CLEC location includes FOTs, multiplexing and fiber required to terminate the optical signal provided from **SBC-13STATE**. This location is CLEC's responsibility to provision and maintain.

3.4.9 The **SBC-13STATE** location includes all **SBC-13STATE** FOT, multiplexing and fiber required to terminate the optical signal provided from CLEC. This location is **SBC-13STATE**'s responsibility to provision and maintain.

3.4.10 **SBC-13STATE** and CLEC shall, solely at their own expense, procure, install, and maintain the agreed-upon FOT equipment in each of their locations where the Parties established a Fiber Meet in capacity sufficient to provision and maintain all trunk groups prescribed by Appendix ITR for the purposes of Interconnection.

3.4.11 Each Party shall provide its own source for the synchronized timing of its FOT equipment.

3.4.12 CLEC and **SBC-13STATE** will mutually agree on the capacity of the FOT(s) to be utilized based on equivalent DS1s or DS3s. Each Party will also agree upon the optical frequency and wavelength necessary to implement the Interconnection. The Parties will develop and agree upon methods for the capacity planning and management for these facilities, terms and conditions for over provisioning facilities, and the necessary processes to implement facilities as indicated in section 4 of this document.

3.5 Other Interconnection Methods

3.5.1 Other Interconnection methods that are technically feasible may be mutually agreed to by the Parties.

4. RESPONSIBILITIES OF THE PARTIES

4.1 For each local Interconnection within an **SBC-13STATE** area, CLEC shall provide written notice to **SBC-13STATE** of the need to establish Interconnection in each local exchange area (**SBC SOUTHWEST REGION 5-STATE**) or LATA (**SBC CALIFORNIA**, **SBC NEVADA**, **SBC CONNECTICUT** and **SBC MIDWEST REGION 5-STATE**). CLEC shall provide all applicable network information on forms acceptable to **SBC-13STATE** (as set forth in SBC's CLEC Handbook, published on the CLEC website).

4.2 Upon receipt of CLEC's notice to interconnect, the Parties shall schedule a meeting to negotiate and mutually agree on the network architecture (including trunking) to be documented as discussed in Section 2.1. The Interconnection activation date for an Interconnect shall be established based on then-existing force and load, the scope and complexity of the requested Interconnection and other relevant factors.

4.3 Either party may add or remove additional switches. The parties shall provide 120 days written notice to establish such Interconnection; and the terms and conditions of this agreement will apply to such Interconnection.

4.4 The Parties recognize that a facility handoff point must be agreed to that establishes the demarcation for maintenance and provisioning responsibilities for each party on their side of the POI.

- 4.5 Facilities will be planned for in accordance with the trunk forecasts exchanged between the Parties as described in Appendix ITR.

5.0 LEASING OF FACILITIES

- 5.1 Should **SBC-13STATE** wish to voluntarily provide CLEC with Leased ILEC Facilities for the purpose of interconnection, the Parties agree that this voluntary offering is not required under FTA 96 nor under FCC UNE Remand Order 99-238, November 5, 1999, and is made with all rights reserved. The Parties further agree that any such voluntary offering is not subject to TELRIC cost methodologies, and instead will be market priced on an individual case basis. Should **SBC-13STATE** voluntarily offer Leased Facilities under this section, it (I) will advise the CLEC in writing in advance of the applicable charges for Leased Facilities, and (II) will process the request only if CLEC accepts such charges.

5.1.1 Leased facilities in **SBC MIDWEST REGION 5-STATE** and **SBC CONNECTICUT** are obtained from the applicable Access Tariffs.

- 5.2 Upon CLEC's request, the CLEC will provide a written leased facility request that will specify the A- and Z-ends (CLLI codes, where known), equipment and multiplexing required and provide quantities requested. Requests for leasing of facilities for the purposes of Interconnection and any future augmentations are subject to facility availability at the time of the request. Applicable rates, terms and conditions will be determined at the time of the request.
- 5.3 Requests by CLEC for leased facilities where facilities, equipment, or riser cable do not exist will be considered and **SBC-13STATE** may agree to provide facilities under a Bona Fide Request (BFR).

6.0 OUT OF EXCHANGE TRAFFIC

- 6.1 Out of Exchange traffic shall be consistent with the Appendix Out of Exchange Traffic attached to this agreement.