



Establish and Maintain Account Key Network and Service Decisions

Network Interconnections

Establish CLEC-Fidium Fiber Inc. (Fidium) Relationship:

This section describes processes and procedures for a working relationship between the CLEC and Fidium.

Working Together to Interconnect CLEC and Fidium Networks:

The following contains necessary actions a CLEC needs to take in order to establish a business relationship with Fidium:

- The CLEC must comply with applicable laws and requirements.
- Negotiate an interconnection agreement or comply with the appropriate state tariff. In some jurisdictions Resale services may be available under Fidium tariffs.
- The CLEC is responsible for establishing all required business relationships with other telecommunications carriers. This includes other CLECs as well as any telecommunications carriers the CLEC sends traffic to.
- Fidium interconnects its network to the CLECs and establishes facilities meeting CLECs service requirements to design and build its network while delivering the UNEs and interconnection in a manner consistent with applicable laws.
- Establish connectivity to Fidium's Operational Support Systems (OSS) in order to submit OSS transactions.

Steps to Establish a Business Relationship between a CLEC and Fidium:

This section provides key steps in the process of establishing the CLEC and Fidium relationship.

1. Establish the CLEC and Fidium Network Interconnections, Design the Network Interconnection Point and Interoffice Trunking.
 2. Build and Test the Network point of interconnection.
 3. Establish Electronic Interface/Connectivity for Access Service Requests (ASR) and Local Service Requests (LSR).
 4. Pre-ASR Meeting.
 5. Establish Interoffice Trunking for the Mutual Exchange of Traffic.
 6. Verify Network Build.
- 1. Establish the CLEC and Fidium Network Interconnections:**
- Network interconnection enables Fidium and the CLEC to originate and terminate traffic to and from each other's network. To interconnect a CLEC's network to Fidium's network the CLEC establishes a point of interconnection with its switches and the Fidium network. Fidium's point of interconnection is generally central offices and access tandems that are utilized for the exchange of local traffic to and from end users served by those switches.

A CLEC establishes a network interconnection and plans to serve end users with its own local loop facilities from its own switches to activate local service from its switches for end users upon completion of the steps in the network interconnection process.

2. Build and Test the Network Interconnection Point:

After completion of the design meetings, each carrier provisions (i.e., build) the facilities required in order to establish a network interconnection. During the building phase, there is usually interaction between representatives from the CLEC and Fidium to ensure the interconnection points are built per specifications. Signaling System 7 (SS7) signaling is also tested and certified. There are many formal processes for testing various interconnection services. The SS7 certification process is used for testing interconnection trunks. At the time of trunk turn up acceptance testing will be performed.

3. Establish Electronic Interface/Connectivity for Access Service Requests (ASR) and Local Service Requests (LSR):

Fidium offers the ability to electronically submit requests for Access Service via Connect Direct.

The ASR/LSR process and format is based on industry standards. More information on Connectivity options can be found on Fidium's Wholesale Website .

4. Pre-ASR Meeting:

Once the network interconnection is established, a meeting is held between the CLEC and Fidium to review the point of interconnection and the CLEC's plans for establishing the desired interconnection trunking.

The Pre-ASR meeting covers such topics as facility architecture, network architecture, NPA/NXXs activation process, E911, operator services, and SS7. Fidium reviews the ASR connectivity procedures for submitting and processing ASRs with the CLEC. ASRs are utilized for the ordering of interconnection trunks enabling CLECs to "build-out" their network presence and provide the range of service coverage desired.

Network Planning:

CLECs planning to interconnect their switch to the Fidium network will need to have an understanding of each of the preceding points and accommodate for them in the design of the interconnected network.

In order to provide CLECs with a more detailed understanding, the CLEC will schedule a design meeting with Fidium. The design meeting will allow representatives from the CLEC and Fidium to design in detail how each company's network interconnect. Plans for the interoffice facilities are required with the design of the interconnected network.

As a guide to assist "facilities-based" CLECs with network planning, the following is a list of trunks to be considered:

- Traffic Exchange Trunks for the transmission and routing of terminating Local Traffic, Tandem Transit Service, translated LEC IntraLATA 800/888/877 traffic and IntraLATA Toll Traffic.
- Access Toll Connecting (meet point billing) Trunks for the transmission and routing of Exchange Access Traffic, including translated InterLATA 800/888/877 Traffic, between CLEC Telephone Exchange Service end users and purchasers of Switched Exchange Access Service via a Fidium Tandem.

- Information Services Trunks for the transmission and routing of terminating Information Services Traffic.
- Operator Verification/Interrupt Trunks for the transmission and routing of terminating Operator Verification/Interrupt Traffic (Operator Verification/Interrupt/Busy Line Verification (BLV) or Line Status Verification (LSV) and Verification of Call with Interrupt (VCI) respectively.
- E911 Trunks for the transmission and routing of E911 traffic.
- Directory Assistance Trunks for the transmission and routing of terminating directory assistance traffic.
- Operator Services (IntraLATA call completion) Trunks for the transmission and routing.
- Choke Trunk traffic congestion and testing.

5. Establish Interoffice Trunking for the Exchange of Traffic:

At this point, CLECs submit ASRs to Fidium (and Fidium ASRs to the CLEC as required) to provision the requested facilities.

6. Verify Network Build:

The completed interoffice facilities provisioned through the ASR process are tested, including access to the E911 system.

An important follow-up of the interconnected network design and build process, is the grooming process where a team of Fidium and CLEC planning representatives will periodically review the interconnected networks.

Checklist for Key Topics and Additional Information:

Below is a Checklist with Key Topics and additional information to assist in the network process.

Checklist for Key Topics and Additional Information:	1. Facilities Based (CLEC owns switch and local loop)	2. Partial Facilities (CLEC purchases Unbundled loop)	3. Partial Facilities (CLEC purchases Unbundled switching)	4. Partial/ "No" Facilities CLEC purchases Unbundled loop and unbundled local switching)
800/888 Number Database Usage	X		X	X
Access Service Request (ASR) Connectivity	X	X		
Alternately Billed Calls Arrangements	X	X	X	X
Collocation	X ¹	X ⁴	X ⁴	X ⁴
Directory Listings Arrangements	X	X	X	X

Emergency Public Safety Answering Points (E911 PSAPs Arrangements)	X	X	X	X
Information Service Provider Arrangements	X	X	X	X
LIDB Database	X	X	X	X
Line Class Codes/Provisioning Forms			X	X
Local Number Portability Arrangements Ordering UNE Services: Number	X	X		
Ordering UNE Services: Loop Service with Number Portability				
Local Service Request (LSR) Connectivity Fidium Connectivity Guide	X ²	X ²	X	X
Meet Point Trunking and Billing	X	X		
NXX Assignment and Testing	X	X		
Trunking to Access Tandems and Central Offices	X ³	X ³	X	X
Reciprocal Arrangements	X	X	X	X
SS7 Questionnaire and Certification	X	X		
Interconnection with Other Local Service Providers		X	X	X
Negotiating an Agreement	X	X	X	X
Common Language Identifier	X	X	X	X
Network Design			X	X

NOTES:

1. CLECs with full facilities have the option to collocate with Fidium even though they provide their own networks.
2. CLECs with their own switches use LSRs to request local number portability and to purchase unbundled loops.
3. CLECs with their own switches need to establish interconnection trunks ensuring the proper exchange of traffic.
4. In New York, CLECs purchasing Platform or other combinations may not need to collocate.

800/888/877 (Toll Free):

The 800/888/877 Service Control Point (SCP) processes queries for toll free number calls to determine the carrier selection and routing instructions.

Information Services Providers (ISPs):

CLECs interconnecting with Fidium may wish to make arrangements for their end users to access Information Service Providers connected to the Fidium network. Trunking and billing arrangements must be addressed in the interconnection agreement. If a CLEC does not make such arrangements for their end users to access the ISP, the end user is blocked.

Line Information Database (LIDB):

This database is for alternate billing arrangements and Calling Name Feature (CNAM). LIDB queries return information about billing and privacy features associated with line number entries stored in the database (following an industry standard format).

Meet Point Arrangements for Interexchange Carrier Traffic:

A CLEC utilizing its own switch must establish Meet Point Arrangements for jointly provided access service that utilizes or subtends the Fidium Access tandem(s). The CLEC must order separate Meet Point Trunks with Fidium, also referred to as Access Toll Connecting trunks, to provide Switched Exchange Access Service to its' end user customers, in lieu of connecting directly with the Interexchange Carriers (IXCs).

Fidium participates in the multiple bill/multiple tariffs billing option, as identified in the Ordering and Billing Forum's (OBF) Multiple Exchange Carrier Access Billing (MECAB) industry documentation. The MECAB and other OBF industry documents can be ordered via <http://www.atis.org/atis/clc/obf/obfhom.htm>. These industry documents outline the process of billing the IXCs, among others. Topics include; record exchange, billing options, transport Billing Percentages (BPs), call scenarios, etc. CLECs should obtain and review this valuable information.

Per OBF guidelines and contract Terms & Conditions, Fidium will send "Terminating access call detail records" via electronic format for distribution of Category 11 records to the CLEC directly or to the CLEC's billing vendor, based upon the CLEC's request. CLECs are obligated to provide Fidium or Fidium's billing vendor with the CLEC's "Originating access call detail records", per these same Terms & Conditions. This process enables both the CLEC and Fidium to assess each party's applicable access charges to the relevant IXCs.

NXX Testing:

Fidium performs testing for new NXXs on an automated basis or on a per request basis. Fidium requires CLECs establish a standard test number for use in each new NXX opening. The CLEC may choose the four-digit standard test number for every NXX the CLEC opens in Fidium.

Signaling System 7 (SS7):

CLECs interconnecting switches to the Fidium SS7 network needs to participate in SS7 testing and certification process performed by Fidium to ensure accurate network signaling. The certification process for local exchange carriers is different than that for Interexchange carriers, so being certified as an IXC does not exempt a CLEC from the certification process.

Subsequent to initial interconnection to the Fidium SS7 network, CLECs are required to participate in SS7 testing and certification process when adding or changing point codes, installing a new switch or switch generic and adding features such as CLASS, ISUP (call set up), LIDB, 800, AIN, LNP and other future technologies.

Service Control Points (SCPs) and Call Processing:

SCPs are AIN (Advanced Intelligent Network), LIDB (Line Information Database), 800/888 (toll free) and LNP (local number portability). Access to these SCPs for call processing requires signaling over the SS7 with final Global Title Translation (GTT) performed at a Fidium Signal Transfer Point (STP). Local Number Portability and AIN are handled on Fidium switches for "switch less" CLECs. When CLECs design their network they must accommodate for these types of SCPs

Interconnections with Other Local Service Providers (OLSPs):

When designing networks, a CLEC needs to consider how it interconnects with other CLECs or OLSPs. In accordance with Fidium Interconnection Agreements, CLECs are required to exercise all reasonable efforts to enter into reciprocal local traffic exchange arrangements with other CLECs with which they exchange local traffic. Such arrangements are necessary regardless of whether the CLEC exchanges local traffic directly or indirectly (via Fidium's transit service) with the CLEC.

CLECs purchasing unbundled switching elements from Fidium to send and receive calls to/from other carriers (OLSPs) without directly interconnecting to each OLSP may choose to use Fidium's transit tandem service for those OLSPs subtending Fidium tandems. CLECs originating such calls are billed termination charges for the completion of their calls, which include Fidium tandem charges as well as terminating LEC charges (unless other arrangements have been made through contract or tariff).

Central Office Code (NXX) Assignment Request:

The North American Numbering Plan calls for a 10-digit telephone number. The first three numbers designate the numbering plan area (NPA) (a.k.a. Area Code); the next three digits represent the central office code (NXX) and the last four digits complete the line number.

In order to provide switch-based CLEC end users with telephone numbers, the CLEC needs to procure NXXs within each numbering plan area (NPA) where end users will reside. Requests for NXX Assignments are sent to the North American Numbering Plan (NANP) Code Administrator.

Operator Services and Directory Assistance (OS/DA):

CLECs designing their network need to care for the routing and handling of Operator Services calls (e.g., CLEC end user dials 0 or 0 + telephone number), and the routing and handling of Directory Assistance calls (e.g., CLEC end user dials 411 or 555-1212).

Subject to local switch capabilities, Fidium provides Operator Services and Directory Assistance to the CLEC. However, a CLEC with interconnected switches must care for the routing of these calls in the design of its interconnected network. The CLEC may also opt to use its own or a third party's Operator Services and/or Directory Assistance.

CLEC Questionnaire for the Provisioning on IntraLATA Call Completion Operator Services and Directory Assistance Service is required when using Fidium's Operator and Directory Assistance Services. Contact your Fidium Account Manager or Fidium Contact to establish an Operator Services and Directory Assistance agreement.

Network Quiet Periods:

"Network Quiet Periods," are scheduled events typically used for updating switch software and network changes. Fidium notifies CLECs of the quiet period schedule for each of the tandem offices via an industry letter at least 30 days before the scheduled quiet periods, except in the event of an emergency (e.g., a service-affecting problem). If changes to the schedule are necessary, the CLECs are notified as soon as possible. It is important for CLECs to be aware of Fidium quiet periods. Likewise, it is important to communicate CLEC network quiet periods to Fidium in such cases where Fidium accesses the CLECs tandem switch.