



High Frequency Spectrum (Central Office Based)
Unbundled Network Element Formerly: Line Sharing

High Frequency Spectrum (Central Office Based)
Unbundled Network Element
CLEC Information Package
Formerly: Line Sharing

(Version 8, March 31, 2005)



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

Table of Contents

1.0 INTRODUCTION

- 1.1 PURPOSE AND SCOPE
- 1.2 DISCLAIMER STATEMENT
- 1.3 VERSION HISTORY/CONTROL

2.0 OVERVIEW

3.0 OPTIONS

- 3.1 BELLSOUTH OWNED SPLITTER
- 3.2 DLEC OWNED SPLITTER

4.0 STANDARDS

5.0 INTERACTION WITH OTHER BELLSOUTH SERVICES

6.0 SERVICE RESTRICTIONS

7.0 ORDERING

- 7.1 END USER ORDERS
- 7.2 PRE-APPROVED UNBUNDLED LOOP MODIFICATION
- 7.3 RESTORATION OF LINE SHARING SERVICE
- 7.4 SAME DAY DATA MIGRATION

8.0 LINE SPLITTER SYSTEM ORDERING DOCUMENT

9.0 BELLSOUTH MAINTENANCE AND REPAIR

- 9.1 DLEC TAFI



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing 1.0 – Introduction

1.0 Purpose and Scope

This Information Package is intended to provide CLECs/DLECs with information pertaining to the High Frequency Spectrum Central Office Based (HFS-CO) Line Sharing product offering, detailed information including equipment elements, product functionality and general product provisioning. A detailed description of this service will be provided in **Chapter 2.0, Overview**, of this document.

Please contact your BellSouth CLEC CARE Team concerning HFS-CO Line Sharing product Service information if you have questions about the information contained herein.

1.1 Disclaimer Statement

The information contained in this document is subject to change. BellSouth will provide notification of changes through the Interconnection Notification Process.

1.2 Version History / Control

Any future modifications, and/or improvements that are made to this guide for the CO Based Line Sharing Account Team/CLEC Care Team will be reflected accordingly in this section of the document.

Section	Date/Version	Description
All	06/03/02 – Issue 1.0	Initial Issue Release
5.0	8/13/02 – Version 2.0	Update to include DAML Language
6.0	8/13/02 – Version 2.0	Update to include company policy of Wireless telecommunications services
5.0	11/15/02 – Version 3.0	Update BellSouth's policy on DAML
7.0	12/10/02 – Version 4.0	Update to include Pre-Approved Loop Modification
7.0	2/18/03 – Version 5.0	Update verbiage to the Pre-approve loop modification
7.0	4/15/03 – Version 6	Update verbiage to the Pre-approve loop modification to include the electronic interim process
7.0	8/06/04 – Version 7	Updated to include electronic ordering
7.0	03/31/05 – Version 8	Updated to include Restoration of Line Sharing Service and same day data migration



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

2.0: Overview

In the Third Report and Order in the Advanced Services Docket (CC Docket No. 98-147), the FCC (Federal Communications Commission) ordered ILECs (Incumbent Local Exchange Carriers) to unbundle the high frequency portion of the loop and make the high frequency spectrum available as a new UNE (Unbundled Network Element) to CLEC (Competitive Local Exchange Carrier) customers. CLECs that specialize in the provision of data are known as DLECs (Data Local Exchange Carriers). In the FCC's Third Report and Order in the Local Competition Docket (CC Docket No. 96-98) (319 Remand) established the requirement for remote terminal collocation and sub-loop feeder and sub-loop distribution. The effect of these two orders is to require the provisioning of line sharing on the sub-loop to the end user's location. The 319 remand requires BellSouth to provide access to its loop records and allows CLECs to modify loops with LMU (Loop Makeup)

Network elements consist of:

- The high frequency range of a copper loop
- The splitter system (The splitter is not a UNE)

Line Sharing requires an unloaded, 2-wire copper loop serve the end user. An unloaded loop is a copper loop with no low-pass filters, range extenders, or similar devices. The DLEC's meet point is the point of termination for DLECs or a distributing frame. BellSouth will use cross connections to connect the DLECs connecting block to the splitter. The splitter will route the high frequency portion of the circuit to the DLECs xDSL equipment in their collocation space. Line Sharing is provided on locally switched Plain Old Telephone Services (POTS) lines.

A passive signal filter is installed at the customer's premises as Customer Provided Equipment (CPE) and is the responsibility of the customer (or DLEC). In some instances, a splitter could be used at the end user's location. The CO splitter directs the voice band signals through a pair of copper wires to the switch while digital traffic is directed through another pair of copper wires to the xDSL equipment in the DLEC's collocation space and attached to the DLEC's packet switched network.



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

2.0: Overview continued

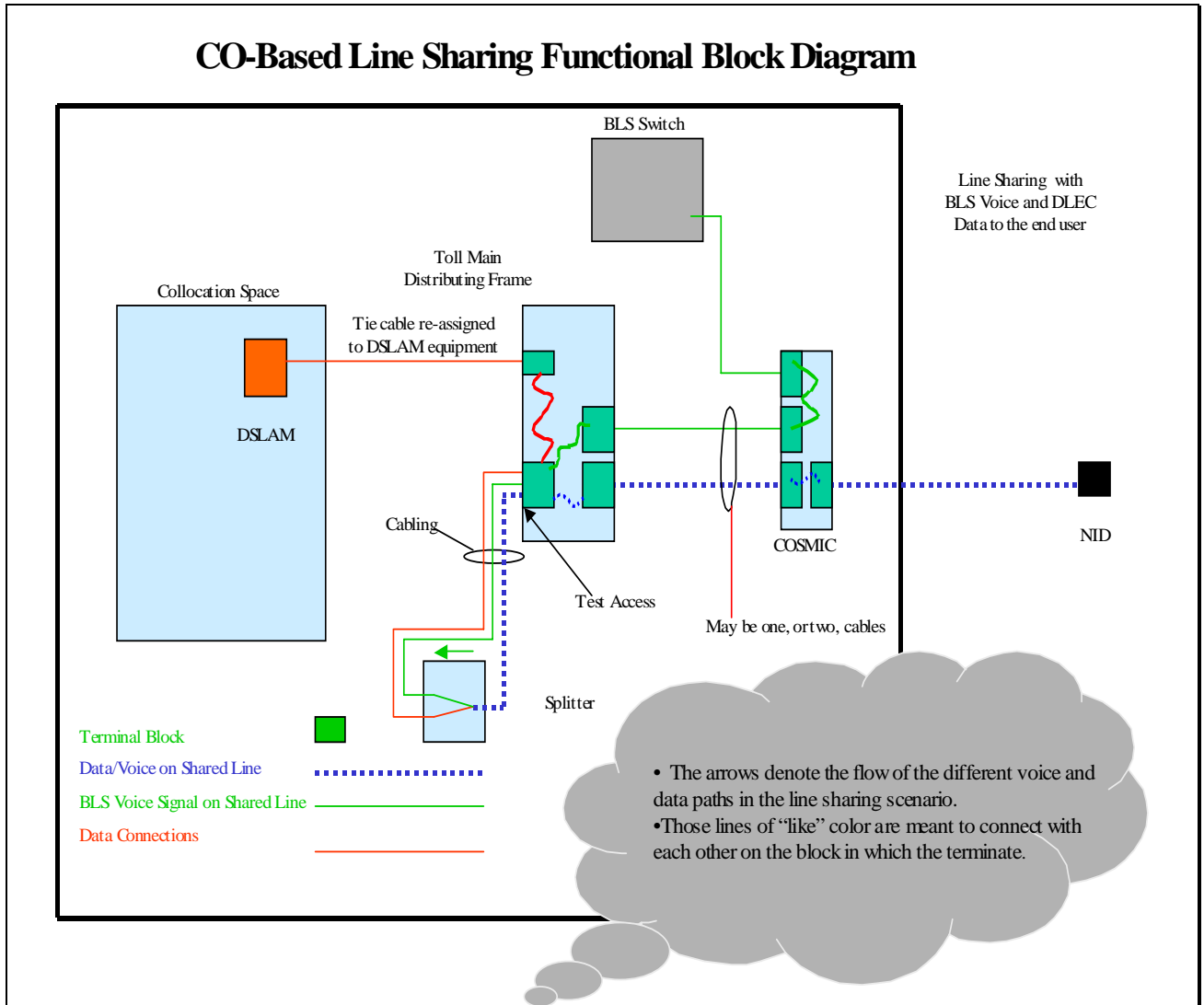
Splitter units of eight (8), twenty-four (24), or ninety-six (96) lines are available to meet the DLEC specifications. When a BellSouth owned splitter(s) is ordered, BellSouth will provide the DLEC with the splitter assignment information that will enable the end user line(s) to be shared.

Note: When a DLEC submits disconnect orders to remove the splitter/s, the DLEC is required to disconnect splitter units in the same quantity as they were originally ordered, (i.e., 8 unit splitter, 24 unit splitter or 96 unit splitter).

The service is available from all BellSouth Central Offices where DLECs have collocated xDSL equipment, collocation pairs and request Line Sharing.

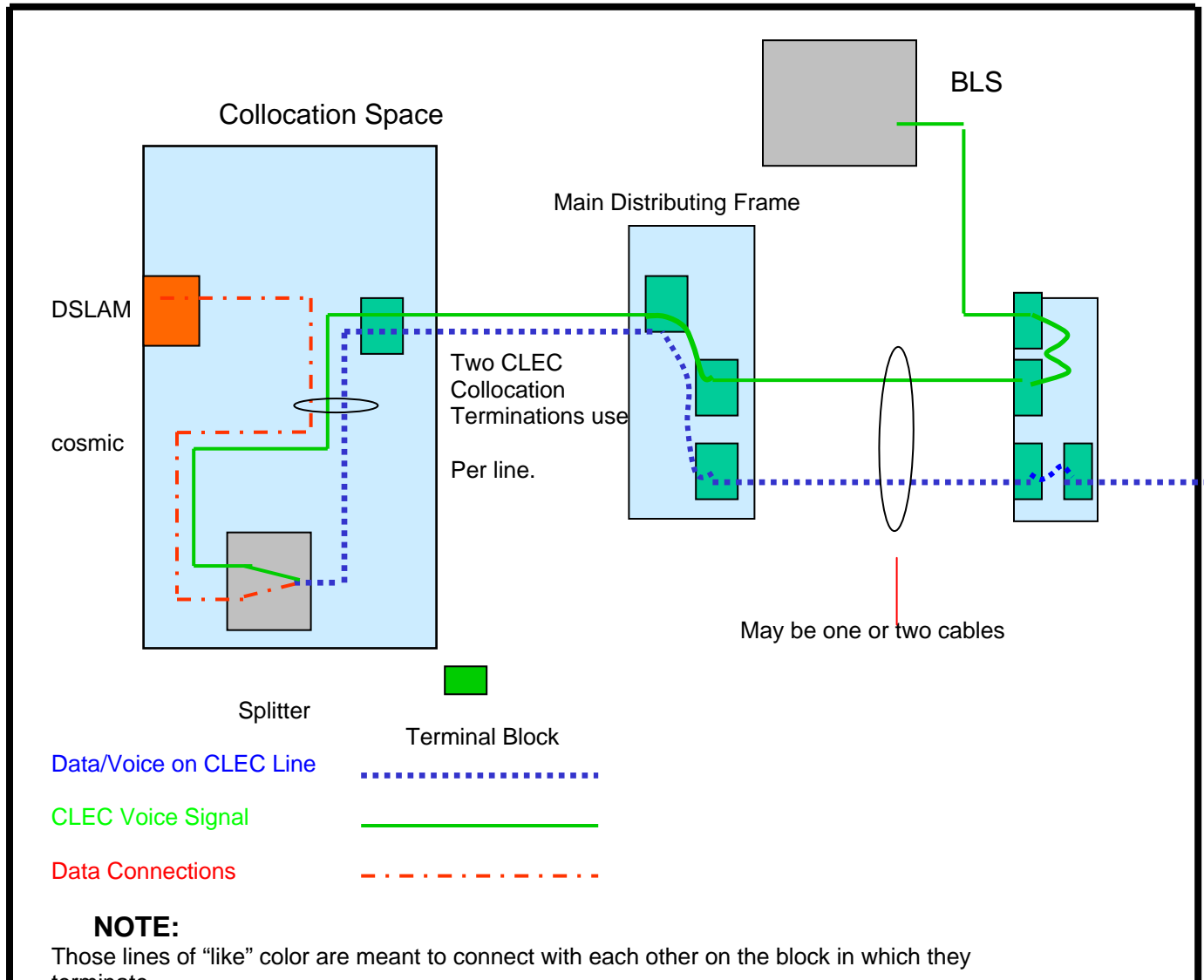
With HFS-CO Line Sharing, the DLEC will have access to the high frequency spectrum portion of a local loop to provide the xDSL data services. The low frequency portion of the loop will provide voice service from BellSouth. With CO based services; the line(s) originates at the BellSouth central office and terminates at the NID located on the end user's premises. An illustration of this is shown on the next page.

High Frequency Spectrum (Central Office Based)
Unbundled Network Element **Formerly: Line Sharing**
2.0: Overview continued



On the next page is a diagram depicting a splitter arrangement where the DLEC owns the splitter.

**CO Based Line Sharing With BellSouth Owned
 Splitter Functional Block Diagram 2**



HFS CO Based HFS w/ BLS voice and DLEC Data to the end user.



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

2.0: Overview continued

There are basically two types of HFS Line Sharing Service and both have 2 splitter options. These include:

- Central Office Based (BellSouth Owned Splitter) and Central Office Based (DLEC Owned Splitter)
- Remote Site (RS) Based (DLEC Owned Splitter)
Remote Site (RS) Based (BellSouth Owned Splitter)

Service orders for HSF CO Line Sharing BellSouth owned Splitter may be requested manually or electronically.

The two options available for CO Based Line Sharing Service will be addressed in **Chapter 3.0, Options**, of this document. Additional information on the Remote Site (RS) Based (DLEC Owned Splitter) and Remote Site (RS) Based (BellSouth Owned Splitter) may be found at:

<http://www.interconnection.bellsouth.com/guides/html/unes.html>

Additional Line Sharing information is available on the Line Sharing Collaborative web site at:

http://interconnection.bellsouth.com/markets/lec/line_sharing_collab/index.html

3.0: Options

To fully understand the terminology utilized in this portion of the document, it is important to have a complete understanding of the use of the following two phrases:

- Line Sharing **Service**
- Line Sharing **Splitter**

Service refers to the actual BellSouth service offering. **Splitter**, on the other hand, is the actual equipment in the central office that enables the Line Sharing Service to work.

The two options included in the BellSouth HFS-CO Line Sharing Service are as follows:

- BellSouth Owned Splitter
- DLEC Owned Splitter



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing 3.0: Options continued

3.1 BellSouth Owned Splitter

This type of HFS-CO Line Sharing Service requires that BellSouth own the splitter equipment and that it be placed in a common area as close to the collocation area as possible or BellSouth line up.

The CO splitter will divide the digital and voice band signals.

- The voice band signals will be directed through a pair of copper wires to the switch.
- The digital signals will be directed through another pair of copper wires to the xDSL equipment in the DLEC's collocation space and attached to the DLEC's network.

BellSouth will maintain control over the BellSouth owned splitter equipment in the central office.

3.2 DLEC Owned Splitter

With this option, the DLEC will actually **own** the splitter equipment. The splitter will be located in the DLEC's collocation space if there is a physical collocation arrangement. If there is not a physical collocation space, the splitter will be located in BellSouth's area with a virtual collocation arrangement. The following standards apply to a DLEC Owned Splitter:

- The DLEC owned splitter would comply with ANSI (American National Standards Institute) T1.413, Annex E or any future splitter standards.
- BellSouth will allow the DLECs to install and use for line sharing any splitters that BellSouth deploys or permits to be deployed for itself or any BellSouth affiliate.
- When the DLEC owns the splitter, they must provide CFA (Connecting Facility Assignment) information prior to ordering end user service. This will allow the DLEC to request activation of specified CFAs between the DLEC collocation space and BellSouth's frame with a DLEC owned splitter. ULSDG is the unique USOC that will bill for CFA activation and deactivation.
- The DLEC will have control of the splitter in their collocation space.
- Failure of the DLEC owned splitter might cause BellSouth's voice service to fail. Procedures have been developed to isolate troubles to the DLEC owned splitter, work with the DLEC to resolve the problem, and to restore the voice service.



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing 4.0 Standards

There are general standards common to BellSouth owned as well as DLEC owned splitters. These standards include:

- BellSouth will provide this service only to carriers seeking to provide xDSL-based service that utilizes the high frequency portion of the loop. It is BellSouth's intent that Line Sharing provisioned in this manner will **not** significantly degrade analog voice service.
- Currently ADSL (Asymmetrical Digital Subscriber Line) is the most widely deployed xDSL technology meeting the qualifications for HFS-CO Line Sharing. As additional xDSL-based technologies demonstrate they can co-exist on the same loop as analog voice service **without** significantly degrading voice service, BellSouth will permit requesting carriers to deploy those technologies. (For specific information on this, refer to **Chapter 5.0, Interaction With Other BellSouth Services**, of this document.
- At the time of deployment, the FCC considered the following types of services acceptable for shared-line utilization:
 1. All types of ADSL
 2. Rate-Adaptive DSL (Digital Subscriber Line)
 3. MVL (Multiple Virtual Line)
- All of these technologies reserve the voice band frequency range for non-DSL traffic.
- DLECs will be able to request removal of load coils and/or bridge tap for loops. BellSouth will modify loops at the request of a DLEC unless doing so will significantly degrade voice band services. High Frequency Spectrum Unbundled Loop Modification (HFS ULM) allows the DLEC to order the loop modification to an existing line and is unique to Line Sharing.
- Voice-enhancing devices are required for loops 18kft or longer. If the end user determines that their voice service has been rendered unsatisfactory because of the removal of load coils, BellSouth will restore load coils to the loop at the expense of the DLEC. For additional information on this, refer to the product description for High Frequency Spectrum (CO Based) Unbundled Loop Modification located at:

<http://www.interconnection.bellsouth.com/guides/html/unes.html>



High Frequency Spectrum (Central Office Based)
Unbundled Network Element Formerly: Line Sharing
4.0 Standards continued

- Loop Makeup (LMU) is available as a separate product for the purpose of qualifying loops for the DLEC's desired loop characteristics. DLECs may request a loop makeup and reserve a spare pair for their use. The DLEC will be able to reserve loops for up to ninety-six (96) hours. After 96 hours, the reserved facilities are automatically purged if they have not been used. Specific LMU USOCs will be utilized for billing.
- If the existing loop cannot be used or conditioned to provide Line Sharing, the DLEC may attempt to identify alternative loops through the LMU process. The LMU process will provide the DLEC an FRN (Facility Reservation Number). The FRN will be placed on the LSR (Local Service Request) to have Line Sharing Service provisioned over the reserved loop. This will require the end user Voice Service be moved via an LSR to the reserved loop to maintain the characteristics of Line Sharing Service. Additional information on LMU may be obtained at:

<http://www.interconnection.bellsouth.com/guides/html/unes.html>

- If the voice end user customer terminates the voice service for any reason, the Line Sharing Service will be removed. BellSouth will notify that the line is no longer eligible for Line Sharing. If the DLEC wishes to continue providing xDSL service to their end user, they may purchase the full stand-alone loop network element. The DLEC will have first priority to receive the loop to serve this customer (DLEC Notification). This process is described on the Collaborative Web site at:

http://interconnection.bellsouth.com/markets/lec/line_sharing_collab/index.html



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

5.0: Interaction With Other BellSouth Services

The following voice-grade services involving BellSouth dial tone are **compatible** with Line Sharing:

- 1FR residential lines and 1FB-type business lines including those with the following features:
 1. TouchStar® (Caller ID, Call Waiting Deluxe, Call Return, etc.)
 2. MemoryCall®
 3. RingMaster® (primary line only)
 4. Measured Service
 5. ACP (Area Calling Plan)
 6. Complete Choice
- AIN (Advanced Intelligent Network) based features (i.e., Flexible Call Forwarding)
- BellSouth.net via dial-up
- 1FBs in a Multi-line Hunt arrangement



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

5.0: Interaction With Other BellSouth Services continued

The following existing BST (BellSouth Telecommunications) services are not **compatible** with Line Sharing on the **same** pair:

- ADSL
- HDSL (Unbundled High-Bit-Digital Subscriber Line)
- Basic and Primary Rate ISDN (Integrated Services Digital Network)
- MegaLink®
- AccuPulse®
- Digital lines associated with P-Phones and other electronic sets
- FX (Foreign Exchange) Service
- Any DDS (Digital Data Service) Services
- DID (Direct Inward Dialing) service where no physical cable exists
- Any data over voice application
- Private Lines (analog data, ring downs, etc.)
- LNP (Local Number Portability) where the customer has a previous BellSouth telephone number ported
- WatchAlert®
- Any 4-wire service
- Internet Call Waiting



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

5.0: Interaction With Other BellSouth Services continued

In addition to those products mentioned previously, in most cases, Unbundled Copper Loops (transmission media) will be compatible with Line Sharing. Transmission media that are *incompatible* includes:

- Digital Loop Carrier (includes copper-fed and fiber-fed)
- Loaded Copper Loops
- Dual Channel Copper or PG DAML (Digital Added Main Line)
- Spartans
- DPA

Conditionally Approved with Digital Added Main Line (DAML)

Line Sharing is incompatible with dual channel copper or pair gain DAML. When technologically feasible, BellSouth will rearrange the DAML in order to support the service request. During pre-qualification, the CLEC may choose to “conditionally qualify” the loop when a DAML is identified through Loop Makeup. BellSouth will accept LSRs as CLEC conditionally qualified when DAML is present. If during the assignment process it is determined the DAML cannot be rearranged, the LCSC will return a jeopardy notice to the CLEC with the error message indicating the need for a FRN. There is no charge for DAML rearrangement.



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

6.0 Service Restrictions

The following service restrictions apply to HFS-CO Line Sharing Service:

- The end user must have analog voice service from BellSouth for the DLEC to purchase this service.
- Offering must be made in parity with BellSouth's ADSL UNE service (BellSouth's wholesale offering for ADSL, which is provisioned on the same loop with POTS).
- BellSouth must provide HFS-CO Line Sharing Service to only a single requesting DLEC for use at the same customer address as the BellSouth provided analog voice service.
- The Line Sharing loops must **not** have load coils, low pass filters, range extenders, Dual Channel DAMLs or PG DAMLs, or similar devices.
- Unbundled network elements (UNEs) are not available for purchase or for conversion from Special Access or Private Line Circuits if such network elements will be used to provide wireless telecommunications services.



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

7.0 Ordering

The targeted installation intervals discussed in this chapter are based upon receipt of a clean LSR for the end user order. An SI (Service Inquiry) will not be required. For installation intervals applicable to this service, refer to the BellSouth Interval Guide located at:

<http://interconnection.bellsouth.com/guides/html/usoc.html>

The targeted installation intervals outlined in the BellSouth Interval Guide encompass the FOC plus network provisioning time required for additional circuits.

7.1 End User Orders

Because the end user is a BellSouth retail customer, there will be two service orders issued for every end user order. The provisioning order is issued in Business Office Customer Record Information System (BOCRIS or CRIS) with a related record order issued against the C07 account in CABS.

End User Service orders for High Frequency Spectrum (CO) – BellSouth Owned Splitter may be requested manually or electronically. To manually order the service, CLEC customers must complete a Local Service Request (LSR) and submit it to the Local Carrier Service Center (LCSC). Once the end user orders are issued, the D/CLEC may view the CRIS provisioning order in the CLEC Service Order Tracking System (CSOTS). The CSOTS web address is:

<https://clecview.bellsouth.com/>

7.2 Pre-Approved Unbundled Loop Modification

The CLEC in this scenario would have performed a Loop Make-up to determine loop qualification, prior to placing an order for line sharing. The CLEC populates RESID with all Xs to indicate use of the existing loop facility or RESID=FRN number to indicate use of a reserved spare pair. In this scenario the CLEC may select the Pre-Approved HFS ULM option. The Pre-Approved ULM option allows the CLEC to authorize ULM on CO Based Line Sharing orders in the event it is discovered during the provisioning process that there is a discrepancy in the Loop Make-Up records and the loop facility needs modifying. By choosing this option, the CLEC is authorizing BellSouth to 1) modify a loop facility, or 2) perform a pair change in lieu of modification, and BellSouth will not require a Loop Modification Service Inquiry form.

Pre-Approved ULM is available with manual ordering and electronic ordering for services with electronic ordering. A Service Inquiry is not necessary.



**High Frequency Spectrum (Central Office Based)
Unbundled Network Element Formerly: Line Sharing**

7.0 Ordering continued

Please refer to the HFS ULM CLEC Information Package for ordering information. BellSouth Interconnection Services' Web site is located at:

<http://interconnection.bellsouth.com/guides/html/unes.html>

For detailed information relative to the LSR, refer to the Methods and Procedures available through standard documentation workflows or the Local Ordering Handbook (LOH). The LOH is located at:

<http://www.interconnection.bellsouth.com/guides/html/leo.html#bbrlo>

There are unique NC (Network Channel), NCI (Network Channel Interface), and SECNCI (Secondary Network Channel Interface) Codes **required** on the LSR when Line Sharing is requested. These codes are not used to provision this service because Line Sharing service is a non-designed UNE. Regardless of splitter ownership, the following codes apply when ordering Line Sharing service:

NC Code	NCI Code	SECNCI
SWXX	02QB5.005	02DU5.005



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

7.0 Ordering continued

7.3 Restoration of Line Sharing Service

BellSouth will restore Line Sharing Service when disconnected as the result of other service order activity on the End User (EU) account. There are multiple causes for Line Sharing service to be disconnected but NOT initiated by the DLEC/CLEC. Some of the causes are listed below:

- BellSouth non-pay disconnect
- End User requested to disconnect service
- End User changes data provider
- End User initiated activity.

In the event the Line Sharing service is disconnected without the DLEC/CLEC submission of an LSR, the DLEC/CLEC will need to review the CSR and communicate with the EU to determine if the loss of the Line Sharing service resulted from an end user initiated service order. If Line Sharing service is still desired by the end user, the DLEC/CLEC will submit a manual LSR with remarks "Data disconnected in error" to restore the Line Sharing service.

ATTENTION: This process does not apply if the Line Sharing service is disconnected because the End User service is disconnected for non-payment, if the End User requested to disconnect service or if the EU changes their data provider.

7.4 Same Day Data Migration:

BellSouth has developed and implemented a manual solution for same day data migration where the Central Office wiring occurs on the due date instead of prior to Due Date. If there is an existing data connection and same day data migration is desired, the DLEC/CLEC can submit a manual LSR with remarks "Conversion to Line Sharing/LineSplitting" to the LCSC.

8.0 Line Splitter System Ordering Document

Due to page constraints and internal links within the LSOD, a copy is not available in this document. By clicking on the hyperlink below, you may access the form with the associated line-by-line instructions.

http://www.interconnection.bellsouth.com/markets/lec/line_sharing_collab/docs/BS/LSOD-doc.xls



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

9.0 BellSouth Maintenance and Repair

The DLEC will report all data troubles to the CWINS. The CWINS will dispatch, as needed, using LMOS (Loop Maintenance Operations System). LMOS will dispatch the report into the CO where the splitter and wiring will be verified. The CO will test data using the Line Sharing Verification (LSVT) Test Set. This test is intended to locate possible wiring or equipment problems. If the splitter and wiring are found to be trouble free, the report will be routed to PDC (Pending Dispatch DLEC) with a narrative Line Sharing call reach number with close out. (The “reach” number will be the DLEC that is the BellSouth customer for HFS-CO Line Sharing Service.) The CWINS will inform the DLEC that the problem is not in BellSouth’s network. If the DLEC’s interconnection agreement contains CO Sync Test (COST), the DLEC may request a COST. When requested, the technician will perform a sync test to determine is (if) the DLEC’s DSLAM is operating correctly.

NOTE: The DLEC will be billed for no trouble found (NTF), if the DLEC’s interconnection agreement allows billing for NTF. If the COST reveals a problem with BellSouth wiring or equipment, the NTF will not be billed.

Maintenance & Trouble Receipt Flows, CWINS/CRSG Line Splitter Trouble Receipt Process, and the Line Sharing Maintenance Flow are available on the Collaborative website. The Shared Loop Collaboration web site is located at the following link:

http://interconnection.bellsouth.com/markets/lec/line_sharing_collab/index.html

9.1 DLEC TAFI (Trouble Analysis Facilitation Interface)

TAFI (Trouble Administration Facilitation Interface) is the vehicle used by BellSouth and CLEC users to process their end-user trouble reports on non-designed (POTS) voice-grade services. Since the DLEC is providing high-speed data access over the same physical facilities via the Line Sharing methodology, the DLEC will be limited in TAFI to **only** processing Line Share Data (LSD) reports.

Should a CLEC expand the scope of their offerings and become a DLEC using line sharing (or visa-versa), the D/CLEC will manage two unique TAFI User IDs:

- One for processing CLEC reports
- A separate ID for processing DLEC reports



High Frequency Spectrum (Central Office Based) Unbundled Network Element Formerly: Line Sharing

9.0 BellSouth Maintenance and Repair continued

This will enable the DLEC to:

- Access trouble history on the end user's account
- Request a vendor meet and
- Run a baseline MLT (Mechanized Loop Test)
- View a splitter signature on the loop

Additional information on DLEC TAFI may be found in Chapter 14 of CLEC TAFI at the web address shown below:

<http://interconnection.bellsouth.com/guides/guides.html>

Or go directly to the LENS (Local Exchange Navigation System)/TAFI Guide, enter the following from the BellSouth Home Page:

http://interconnection.bellsouth.com/guides/lens_tafi.html