

VIII. Change Management Test Section

A. Overview

The purpose of this section is to define the specific Change Management tests to be undertaken in evaluating the systems and related operational elements associated with BellSouth's establishment and maintenance of business with CLECs.

B. Scope

The change management test scope is based on the following test dimensions: interface, test objectives, product categories, and test techniques. The table identifies the test target, the interface under test, the primary test objective(s), the BST product offering, and the test technique(s) to be employed.

<i>Test Cycles</i>	<i>Process Domains</i>			
	<i>Interface</i>	<i>Primary Test Objective</i>	<i>Product Category</i>	<i>Test Techniques</i>
CM-1: Change Management Practices Review	TAG, EDI, TAFI, ECTA	Documentation	Resale UNE	Interview Document Review Observation

Figure VIII-1: Change Management (CM) Test Cycles

C. Test Cycles

1.0 CM-1: Change Management Practices Review

1.1 Description

The Change Management Practices Review evaluates the overall policies and practices for managing change in the procedures and systems necessary for establishing and maintaining effective operations between BellSouth and CLECs. The results of this test will rely upon checklists and inspections.

The Change Management Practices Review will evaluate the current BellSouth process used to manage CLEC- and BellSouth-requested changes to BellSouth's OSS interfaces,

through the EICCP and Carrier Notification processes. The interfaces to be reviewed include the following:

- EDI
- TAG
- TAFI
- ECTA

1.2 Objective

The objective of the Change Management Practices Review is to assess the adequacy and completeness of procedures for developing, publicizing, conducting, and monitoring change management.

The Review will evaluate BellSouth's ability to:

- Migrate and adhere to those industry standards that impact electronic interfaces relative to order, pre-order, and maintenance.
- Ensure continuity of business processes and systems operations.
- Establish and adhere to processes for communicating and managing changes.
- Allow for mutual impact assessment and resource planning to manage and schedule changes.
- Appropriately prioritize requested changes.

1.3 Entrance Criteria

- Global entrance criteria satisfied.
- Detailed test cycle checklist created.
- Test logs and validation instructions created and results reporting template completed.
- Test execution team identified, scheduled, and trained.
- Electronic Interface Change Control Process (EICCP) forms and documents obtained.
- Other procedural and technical documentation obtained.

- BellSouth documentation on its change management functions provided.
- Copies of recent change management artifacts for review to measure adherence to guidelines/processes obtained.
- Interview guide/questionnaire developed.
- Interviewees identified and scheduled.
- Test Plan and evaluation criteria defined and approved.

1.4 Test Scope

The test scope will address the following sub-processes and functions to evaluate BellSouth's change management process:

<i>Sub-Process</i>	<i>Function</i>
Change Management	Developing change proposals.
	Evaluating change proposals.
	Implementing change.
	Intervals.
	Documentation.
	Tracking change proposals.

Figure VIII-II: Change Management Practices Review Scope

1.5 Test Activities

1. Review BellSouth Change Management documentation and artifacts.
2. Conduct interviews with key Change Management personnel as appropriate.
3. Document findings.
4. Resolve exceptions

1.6 Exit Criteria

- Global exit criteria satisfied.
- Exception resolution activities and reports completed.
- Expected results versus actual test case results reported.
- Test report generated.
- Exit review completed.

Appendix A: Product Selection & Description

This Appendix describes the network elements, services and features to be electronically tested for the pre-ordering, ordering, provisioning, billing and maintenance and repair (M&R) domains of the Test.

The process of selecting products and services for testing is driven by the following set of product categories:

- Unbundled Network Elements (UNEs)
- Resale Services (Volume testing only for pre-ordering, ordering and maintenance and repair)
 - Simple
 - Complex

The definitions of Unbundled Network Elements, Simple Resale services, and Complex Resale services are contained below:

Unbundled Network Elements	UNEs are components of the BellSouth network that have been unbundled so that they can be sold individually. UNEs are offered to facilities based CLECs so that they can provide telecommunications services to their end users. The CLEC will only purchase the elements that they need to provide complete service, leveraging their existing network and facilities to deliver competitive service to end users. Examples include loops, number portability, ports, and loop-port combinations.
Simple Resale	Simple resale services are those plain old telephone service (POTS) offerings that residential customers require and smaller businesses tend to favor. Examples include measured or flat rates, Caller ID, Call Forwarding, Call Return, etc.
Complex Resale	Complex resale services are high end business products and services for voice and data. They require specific switch configurations and/or specialized routing in order to provide service. Examples include Synchronet, ISDN BRI, and DS-1 services.

Figure A - I: Product Categories

In addition to UNE and resale services, BellSouth also offers general features and services that underlie both categories. These features and services will be covered in detail in a later section.

Since the pre-ordering, ordering, provisioning, billing and M&R activities evaluate BellSouth's OSS systems, only electronic orders are in scope.¹

In the case of simple resale, all products and features for all order activity types are available electronically. Figure A-II lists all products and services that are included in the Test.

¹ Electronic orders are defined as those orders that can be submitted electronically. Certain electronic orders may require manual intervention.

Product Name	Process Domain		
	Ordering & Provisioning	Billing	Maintenance & Repair
Unbundled Network Elements			
UNE Loops			
2-Wire Analog Designed Loops	X	X	X
2-Wire Analog Non-Designed Loops	X	X	X
4-Wire Analog Design Loops			X
4-Wire Analog Non-Designed Loops			X
2-Wire ISDN Loops			X
4-Wire DS-1 Loops			X
Number Portability			
INP	X	X	
LNP	X	X	X
UNE Ports			
2-Wire Analog Ports	X	X	X
2-Wire Digital Port			X
4-Wire Digital Port			X
UNE Loop-Port Combination			
2-Wire Analog Loop-Port Combinations	X	X	X
4-Wire Analog Loop-Port Combinations			X
2-Wire Digital Loop-Port Combinations			X
4-Wire Digital Loop-Port Combinations			X
Loop-Dedicated Interoffice Transport Combination			X
Resale			
Simple Resale	X	X	X
ISDN-BRI	X		X
PBX Trunks	X		X
Synchronet	X		X
General Features and Services			
Basic Class of Service			
Flat Rate Line	X		X
Measured Rate Line	X (resale only)	X	X
Area Plus [®] Service	X (resale only)		X
Business Plus Calling Plan Option 1	X (resale only)		X
Complete Choice [®] Service	X (resale only)		X
Area Plus [®] with Complete Choice	X (resale only)		X
Custom Calling Features			
Call Forwarding	X	X	X

Call Waiting	X	X	X
Speed Calling	X	X	X
Three Way Calling	X	X	X
TouchStar® Features			
Caller ID with Name and Number (Enhanced Caller ID)	X		X
Call Return	X		X
Distinctive Ringing	X		X
Custom Calling Features			
Call Restriction	X	X	X

Figure A - II: Test Product List

The following sections describe each product and the selection process used (where applicable) UNE and resale services.

Unbundled Network Elements

UNEs have been under review by the FCC due to an accelerating trend among CLECs demonstrating increasing demand for these services. This Test focuses primarily on UNEs, in accordance with the Georgia Order.

BellSouth offers over 80 UNEs; however, only a subset with the highest potential volumes can be ordered electronically. As a result, the UNE list is composed of five specific types of UNEs that can be electronically ordered via TAG and EDI, as listed in the following section.

CLEC UNE List

The following UNEs will be tested for ordering, provisioning and billing activities:

Unbundled Voice Loops (UVL)²

- 2-Wire Analog Designed Loops
- 2-Wire Analog Non-Designed Loops

Number Portability

- INP
- LNP

Unbundled Local Switching

- 2-Wire Analog Ports

UNE Combinations

- 2-Wire Analog Loop - Port Combinations

² Loops can be ordered both with either INP or LNP.

The following UNEs will be tested for maintenance and repair activities:

Unbundled Voice Loops (UVL) ³

- 2-Wire Analog Designed Loops
- 2-Wire Analog Non-Designed Loops
- 4-Wire Analog Designed Loops
- 4-Wire Analog Non-Designed Unbundled Digital Loops (UDL)
- 2-Wire ISDN Loops
- 4-Wire DS-1 Loops

Unbundled Ports

- Analog
- Digital

Unbundled Combinations

- 2-Wire and 4-Wire Analog Loop-Port Combinations
- 2-Wire and 4-Wire Digital Loop- Port Combination
- Loop-Dedicated Interoffice Transport Combinations

Unbundled Loops

An unbundled loop, or the “last mile,” refers to the infrastructure from the Main Distribution Frame (MDF) to the customer’s premises. CLECs most frequently order this type of UNE due to the high infrastructure costs associated with building out a network to the customer’s premises.

2-Wire and 4-Wire Analog Designed Loops

2-Wire and 4-Wire Analog Designed Loops, also known as Unbundled Voice Loops (UVLs), are dedicated analog transmission facilities from BST’s Main Distribution Frame (MDF) to a customer’s premises.

UVLs can be configured as 2-wire or 4-wire facilities offered as Service Level 2 (SL2). SL2 is a designed circuit that can be provided on 2 or 4-wire circuits. A UVL consists of two components:

- Wire and/or tie cable(s) – connects the MDF to either the CLEC termination or other BST equipment.
- Loop facility – connects the MDF to the customer’s premises. The loop can be a metallic facility or a universal Digital Loop Carrier (DLC) linked together with cable and/or wire.

³ Ibid.

2-Wire Analog Non-Designed Loops

2-Wire Analog Non-Designed Loops or Unbundled Voice Loop (UVL) are very similar to 2-Wire Analog Designed Loops. However, they are *shared* analog transmission facility from BST's Main Distribution Frame (MDF) to a customer's premise. It is primarily associated with residential POTS.

2-Wire Analog Non-Designed Loops may be configured as a 2-wire facility offered as Service Level 1 (SL1). An SL1 loop is a non-designed circuit that can only be provided on 2-wire circuits. It consists of the following two components:

- Wire and/or tie cable(s) – connects the MDF to either the CLEC termination or other BellSouth equipment.
- Loop facility – connects the MDF to the customer's premises. The loop can be a metallic facility or a universal Digital Loop Carrier (DLC) linked together with cable and/or wire.

2-Wire ISDN Loops

2-Wire ISDN Loops are dedicated transmission facilities that connect BellSouth's MDF to an end user's premises. This facility allows the end user to send and receive via Basic Rate Interface (BRI).

4-Wire DS-1 Loops

4-Wire DS-1 Loops are dedicated high capacity transmission facilities that connect BellSouth's MDF to an end user's premises. This facility allows the end user to send and receive traffic that is connected to the proper packet/circuit switch.

Number Portability

Interim Number Portability (INP)

Interim Number Portability provides an interim solution that enables CLECs to provide Service Provider Local Number Portability until Long Term Service Provider Local Number Portability is deployed.

The only type of INP that will be tested in the Test is remote call forwarding (RCF). When RCF is used to provide number portability, calls to the ported number will first route to the BellSouth switch to which the ported number was previously assigned. The BellSouth switch will then forward the call to a number with an NXX associated with the CLEC operated switch to which the original number is ported.

Local Number Portability (LNP)

All ILECs were required to complete implementation of LNP in the top 100 metropolitan statistical areas (MSAs) by December 31, 1998. BellSouth has completed implementation of LNP in all scheduled metropolitan areas. LNP will be available to test in the Atlanta area for this Test.

BellSouth complies with the Location Routing Number method of number portability. This method utilizes the SS7 architecture and the AIN 0.1 platform to perform call processing queries in order to reroute calls to the their new switch provider if they have ordered local number portability.

Unbundled Local Switching

2-Wire and 4-Wire Analog Ports

2-Wire and 4-Wire Analog Ports are designed to provide a CLEC with the ability to offer end office switching capabilities to their customers for analog loops. This product is available to all certified CLECs.

2-Wire Analog Ports can be handled electronically for ordering, provisioning, billing and M&R while 4-Wire Analog Ports can only be handled electronically for M&R.

2-Wire and 4-Wire Digital Ports

2-Wire and 4-Wire Digital Ports are designed to provide a CLEC with the ability to offer end office switching capabilities to their customers with digital loops. This product is available to all certified CLECs.

2-Wire and 4-Wire Digital Ports can only be handled electronically for M&R. Digital Ports are out of scope for ordering, provisioning and billing.

UNE Combinations

2-Wire and 4-Wire Analog Loop-Port Combinations

2-Wire and 4-Wire Analog Loop-Port Combinations combine to 2-Wire and 4-Wire Analog Loops with 2-Wire and 4-Wire Ports respectively for a particular customer.

2-Wire Analog Loop-Port Combinations can be handled electronically for ordering, provisioning, billing and M&R while 4-Wire Analog Loop-Port Combinations can only be handled electronically for M&R.

2-Wire and 4-Wire Digital Loop-Port Combinations

2-Wire and 4-Wire Digital Loop-Port Combinations combine 2-Wire and 4-Wire Digital Loops with 2-Wire and 4-Wire Ports respectively for a particular customer. This would be desirable for a facilities-based CLEC that wants to offer service in an area where it has not yet deployed switching facilities.

2-Wire and 4-Wire Digital Loop-Port Combinations are only handled electronically for M&R. Digital Loop-Port Combinations are out of scope for ordering, provisioning and billing.

Loop-Dedicated Interoffice Transport Combinations

Loop-Dedicated Interoffice Transport Combinations combine a loop with dedicated interoffice transport. This combination connects the customer to the CLEC switch through a BellSouth loop and BellSouth interoffice transport.

Loop-Dedicated Interoffice Transport Combinations can only be handled electronically for M&R purposes. These are out of scope for ordering, provisioning and billing.

Resale Products

Resale products fall into two categories: Simple Resale and Complex Resale.

Simple Resale services are plain old telephone service (POTS) offerings that residential customers require and smaller businesses tend to favor. All thirty of BellSouth's Simple Resale products and features can be ordered electronically. Rather than test all 30 simple resale products in volume, the simple resale product portion of the list utilizes a carefully selected subset of the BellSouth resale product offerings. This list is derived from the BellSouth Product Guide with products selected from equivalency classes. The process used to develop the product list is described in the Simple Resale Selection Process at the end of this appendix.

Complex Resale services are high end business products and services for voice and data. They require specific switch configurations and/or specialized routing in order to provide service. Due to their need for manual intervention, only four of the twenty-one complex products can be ordered electronically. In addition, these four products can be electronically ordered and flow-through for one activity type, migrate "as is." Therefore, the scope of the complex resale products testing is four products.

CLEC Resale Product List

The following Resale products will be tested for ordering and M&R activities:

- Simple Resale
- Complex Resale
 - Hunting
 - ISDN-BRI
 - PBX trunks
 - Synchronet

Simple Resale

Simple resale services are those Plain Old Telephone Service (POTS) offerings that residential customers require and smaller businesses tend to favor. Examples include measured or flat rates, Caller ID, Call Forwarding, and Call Return.

Hunting

Hunting Service is a feature offered to residential and business customers who have more than one line arranged for incoming calls at the same location. When an incoming call is generated to a line that is busy, the call overflows to the next number in the Hunting Group. Hunting provides maximum utilization of lines to handle incoming calls and prevent unnecessary busy signals.

There are two basic types of hunting service:

- Series Completion Hunting - requires each line to have a unique telephone number (TN). This arrangement is typically offered to customers with 5 lines or less.
- Multiline Hunting - describes one telephone number for the entire group. Each line in a Multiline Hunting Group is assigned a group identifier and a Terminal Number along with the Telephone Number to provide a unique combination (identifier). This arrangement is usually offered to customers with six or more lines.

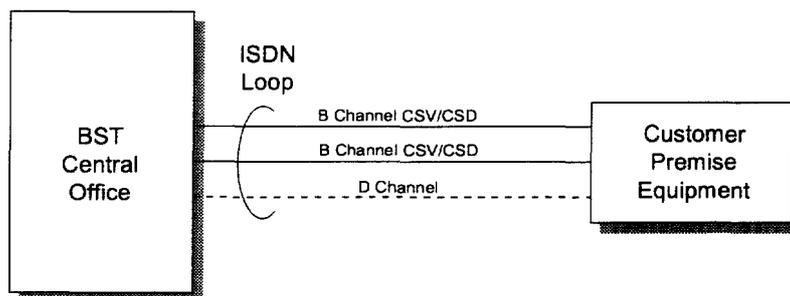
Integrated Services Digital Network (ISDN) - Basic Rate Interface

ISDN Basic Rate Interface (BRI) service is an integrated service for residence and business users. It provides an architecture supporting simultaneous transmission of voice, data, and packet services over the same exchange access line.

For ISDN-BRI, the physical line is “parsed” into 3 logical channels, referred to as ‘2B+D’. These channels consist of:

- 2 “B” bearer channels, each rated to 64kbps
- 1 “D” signaling channel, rated at 16kbps

The diagram below illustrates this arrangement:



Each channel supports either one of two formats:

1. Circuit Switched Voice/Data (CSV/D)
2. Packet Switched Data

Whether a “B” channel is provisioned for CSV/D or whether it is provisioned for packet switched data, it is limited to that format once provisioning is completed.

There are 4 options that must be determined for each ISDN order submitted to BellSouth. These options are:

1. Basic Class of Service (COS)
2. The Basic Rate Interface. This provides the end user with the digital subscriber loop (DSL) from the CO required for ISDN service as well as the ISDN port service in the CO.
3. Channel activation. This determines of the type of traffic that is offered over the B and the D channels.
4. User profile services. These are the services that are associated with each channel. The customer must subscribe to at least one user profile service for at least one channel (B or D). Additionally a maximum of 8 user profile services can be ordered for a given DSL. For BellSouth, Called/Calling Number Delivery and Call Hold are provided with IRS/IBS with additional features available.

If these services are provisioned in a CO other than the one serving the customer, an interoffice DSL will also be required.

PBX Trunks

Trunk lines are a common group of central office lines (pooled) that terminate in Private Branch Exchange (PBX) systems, automatic call distributors, or any system in which the customer's premises equipment selects and seizes a vacant line for incoming and outgoing calls. Trunk lines do not terminate directly to a telephone set, but rather in PBX common equipment or an attendant position.

Trunk lines may be provisioned and billed as flat rate, message rate, measured rate, or usage based pricing service. Some dial-type PBXs may terminate only on combination trunk lines. Others terminate a mixture of one-way incoming, combination, and outdial only trunk lines. The calling patterns of the PBX users determine the proper trunk line mix.

Synchronet®

Synchronet® is a dedicated, synchronous service for customers that require high reliability for two-way transmission of data using time division multiplexing. It allows an end user to transmit data in digital format over digital facilities routed through a central office node. Additionally, Synchronet® is private line and IntraLATA based nodal service capable of the following transmission bit rates:

- 2.4 kbps
- 4.8 kbps
- 9.6 kbps
- 19.2 kbps

- 56.0 kbps
- 64.0 kbps

There are a number of arrangements available with Synchronet®. They are point-to-point, multi-point, and secondary channel capability.

General Services and Features

General services and features include those features and services that are ordered on either UNE and/or resale lines. The descriptions below specify on which line type the particular services and features can be ordered.

CLEC Services and Features List

Basic Class of Service

- Flat Rate Line
- Measured Rate Line
- Area Plus®
- Business Plus Calling Plan Option 1
- Complete Choice® Service
- Area Plus® with Complete Choice®

Features

- Caller ID with Name and Number (Enhanced Caller ID)
- Call Return
- Call Waiting
- Distinctive Ringing (Call Selector)
- Speed Calling
- Three Way Calling
- Call Forwarding Remote Access

Control Services

- Selective Call Restriction

Basic Class of Service

Basic Class of Service codes are grouped for rate distinction. The codes distinguish between business and residence, between flat and measured rate, and between restricted and extended area service.⁴ A Basic Class of Service is required to process a UNE or simple resale order. UNE ports will be tested on Measured Rate Lines, UNE loops will be tested on Flat Rate Lines, while simple resale will be tested on all types of service.

Flat Rate Line

Flat rate service is an industry-wide billing method for local phone calls. It offers unlimited calling to both residential and business customers in a specified local area for a fixed monthly recurring charge. This service applies to UNE and Simple Resale orders.

⁴ Newton's Telecom Dictionary, 14th Edition, Harry Newton, 1998

Measured Rate Line

Measured rate service is another industry-wide billing method for local phone calls. A customer (either residential or business) is charged a monthly fee for unlimited incoming calls and a fixed number of outgoing local calls. Each additional local call beyond the specified limit costs an additional call fee. The price of the additional calls depends on the call distance, time of day, day of week and company tariffs.⁵

Area Plus[®] Service

Area Plus[®] offers residential customers unlimited calling for an expanded local area. The expanded area includes all access lines within the serving exchanges and the associated Basic and Expanded LATA wide Calling Plan (BLCA and ELCA)⁶ Subscribers also receive a discount on the intraLATA intrastate Message Telecommunications Service (MTS) rates.

Business Plus Calling Plan Option 1

Business Plus offers business customers a flat rate per month for calling in the BLCA and ELCA (out to LATA boundary) up to a *predefined number of minutes-of-use per line*.⁷

Complete Choice[®] Service

Complete Choice[®] Service offers residential customers with a Touchtone line unlimited calling to all exchanges in the customer's basic service area and usage to the expanded service area. In addition, Complete Choice[®] Service also includes the customer's choice of any Custom Calling, TouchStar[®] and Ringmaster[®] services.⁸

Area Plus[®] with Complete Choice[®]

Area Plus[®] with Complete Choice[®] offers residential customers with a Touchtone line an expanded local calling area. In addition, it offers a calling card and Complete Choice[®] options. Complete Choice[®] includes the customer's choice of any Custom Calling, TouchStar[®] and RingMaster[®] services.

Vertical Features

Vertical features are options that a customer can add or change on their basic telephone service. Vertical features apply to all types of service.

Caller ID with Name and Number (Enhanced Caller ID)

Among the several variations of Caller ID, the Test product list includes Caller ID with Name and Number. This version of Caller ID enables a customer to identify the calling party's name and number before answering the call via their customer premise equipment

⁵ Ibid.

⁶ Section 7.1 LEO Guide Volume II, February 1999.

⁷ Section 7.6, LEO Guide Volume II, February 1999.

⁸ Section 14.0, LEO Guide Volume II, February 1999.

(CPE). Depending on the CPE unit, the caller's name, the area code plus the 7-digit telephone number, the month, day and time of the call may be displayed.

Call Forwarding

BellSouth offers many variations of Call Forwarding (CF) including

- CF Busy Line
- CF Don't Answer
- CF Multipath
- CF Variable
- Flexible CF
- Preferred CF
- Remote CF
- Remote Access to CF

In its most basic form, Call Forwarding allows a user to have incoming calls forwarded to a different telephone number. Users do so by dialing a two-digit access code and the telephone number to which calls are to be forwarded. The customer controls the activation and deactivation process. The Test includes Call Forwarding Variable as well as Remote Access to Call Forwarding. Remote Access to Call Forwarding includes the basic feature, Call Forwarding Variable and provides the user the ability to activate and deactivate the feature either from the provisioned line or remotely from a location equipped with Touchtone signaling.

Call Return

Call Return is an advanced custom calling feature that allows a customer to automatically dial the number of the last caller, regardless of whether the customer answered the phone or not. It is activated by dialing *69.

Call Waiting

Call Waiting enables a customer to know when another call is waiting by providing an audible signal. It allows the waiting call to be answered without disconnecting from the existing call and enables switching between the calls as desired.

Distinctive Ringing (Call Selector)

Distinctive Ringing provides a unique ringing pattern (i.e. short, long, short) for specific numbers on a customer programmable screening list.

Speed Calling

Speed Calling allows customers quick dialing access to either 8 or 30 telephone numbers through a pre-programmed two-digit code .

Three Way Calling

Three Way Calling enables another calling party to be added to a call already in progress. The added party may be either local or long distance. This feature is available on either a

per use or flat, monthly fee basis. Scenarios will include Three Way Calling with a flat, monthly fee.

Call Control Services

Customized Code Restriction

The Customized Code Restriction option restricts billable outgoing calls to direct dialed, operator handled and 900, 976 numbers. Customers who attempt to make an outgoing call to blocked numbers will hear a prerecorded message.

Basic Class of Service and Features Selection Process

The Basic Class of Service and Features used for the product list is a subset of those BellSouth products that are ordered electronically. Rather than incorporate every possible product into the Product Test List, the Test selected a comprehensive representation of BellSouth's simple resale product list. This List represents all major equivalency classes of BellSouth's service offerings. The selection process consisted of:

- Reviewing the FCC's response to BellSouth's second application in Louisiana for specific resale product references. Although the FCC details requirements with respect to particular categories, it does not consistently highlight specific products and services in each category.
- Identifying BellSouth's simple resale product offerings
- Conducting an equivalency analysis of the simple products
- Analyzing external research regarding popular residential calling features

BellSouth offers thirty simple resale products and services, all of which are supported electronically. The following list contains those simple resale products supported by BellSouth:

- Flat Rate Residence
- Measured Rate Residence
- Flat Rate/Basic Local Exchange (Flat Rate Business)
- Measured Rate Business
- Touchtone
- Optional Calling Plan (OCP)
- Integrated Package - Area Plus[®] with Complete Choice[®], Complete Choice[®]
- Georgia Community Plan
- Area Plus[®]
- Visual Director[®]
- Custom Calling - Speed Calling 8 & 30
- Custom Calling - 3 Way Calling
- Custom Calling - Call Forward Variable
- Custom Calling - Remote Access to CF
- RingMaster[®]
- Message Telephone Service (MTS)
- TouchStar[®] - Call Tracing
- TouchStar[®] - Call Block
- TouchStar[®] - Call Selector
- TouchStar[®] - Call Return
- TouchStar[®] - Repeat Dialing
- TouchStar[®] - Preferred Call Forwarding
- MemoryCall[®]
- MemoryCall[®] Answering Service
- Caller ID
- Call Waiting
- Call Waiting - Deluxe
- Customized Code Restriction
- Enhanced Caller ID
- Remote Call Forwarding (RCF)

Equivalency Analysis

The BellSouth simple resale product list was divided into groups based on similar functionality or technology. These groups, or equivalency classes, are:

1. Basic Class of Service
2. BellSouth Custom Calling Services
3. BellSouth TouchStar[®] Services
4. Integrated Packages

In each of the following sections, the specific products and services in each equivalency class are identified and those selected for the Test are highlighted.

1. Basic Class Of Service Equivalency Class

Basic Classes of Service are codes that group services for rate incentives and/or discounts. The BellSouth simple resale product list includes the following Basic Classes of Service:

- Flat Rate Residence
- Measured Rate Residence
- Flat Rate/Basic Local Exchange
- Measured Rate Business
- Touchtone
- Optional Calling Plan (OCP)
- Georgia Community Plan
- Message Telephone Service (MTS)
- Area Plus^{®9} with Complete Choice^{®10}
- Complete Choice^{®11}
- Area Plus^{®12}
- Visual Director^{®13}

The Test selected representative offerings from the flat rate services, measured rate services, extended calling area and calling plans for both business and residential customers for inclusion.

The following table highlights the services that the Test product list selected and how each represents both flat and measured rates for residential and business customers.

⁹ Area Plus[®], Area Plus[®] with Complete Choice[®], Complete Choice[®] and Visual Director[®] are listed in both the Basic Class of Service and Integrated Package equivalency classes due to their functionality.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

<i>Basic Class of Service</i>	<i>Rate</i>		<i>Cust Type</i>		<i>USOC</i>
	<i>Flat</i>	<i>Meas</i>	<i>Res</i>	<i>Bus</i>	
Flat rate line with Touchtone, residence	X		X		14R
Flat rate line, business, two way	X			X	1FB
Measured rate line, residence, two-way, non-hunting		X	X		1MS
Measured rate line, business		X		X	B1M
Area Plus [®] Service, residence	X		X		VRI
Area Plus [®] with Complete Choice [®]	X		X		VR4, ACO
Complete Choice [®] Service, individual line	X		X		VR3, VR0
Business Plus Service, option 1, flat rate plan	X			X	BG1 (GA)

Figure A - III: Basic Class of Service

2. BellSouth Custom Calling Services Equivalency Class

Custom Calling Services is a group of features available from the central office switching system which offers benefits without adding telephone customer premise equipment. BellSouth offers the following Custom Calling Services on a resale basis:

- Call Forwarding Busy Line
- Customer Controlled Call Forward Busy Line
- Call Forwarding Multipath
- Call Forwarding Multiple Simultaneous
- Call Forwarding Don't Answer
- Customer Controlled Call Forwarding Don't Answer
- Call Forwarding Don't Answer - Ring Control
- Call Forwarding Variable
- Remote Access - Call Forwarding
- Call Waiting
- Call Waiting Deluxe
- Speed Calling
- Three Way Calling
- Flexible Call Forwarding
- Flexible Call Forwarding Plus

Of these Custom Calling Services, the Test will use

- Call Waiting,
- Three Way Calling,
- Call Forwarding Variable, and
- Speed Calling.

These services were selected based on IDC research considered in an effort to create the most representative product list for a CLEC. In an August 1998 report¹⁴ of residential telecommunications customers, these were reported to be the most widely popular features.

3. TouchStar[®] Equivalency Class

TouchStar[®] service is a BellSouth grouping of central office Call Management features that are offered in addition to basic telephone service. Most TouchStar[®] features fall under the CLASS category. CLASS is an industry acronym for Custom Local Area Signaling Services. TouchStar[®] service includes:

- Call Return
- Repeat Dialing
- Call Selector
- Preferred Call Forwarding
- Call Block (incoming calls)
- Call Tracing
- Caller ID - Basic
- Caller ID - Deluxe
- Calling Number Delivery Blocking - Permanent
- Anonymous Call Rejection
- Call Tracking - Bulk Calling Line Identification
- Enhanced Caller ID (Busy Line and Idle Line Name and Number Delivery)
- Enhanced Caller ID with Call Management

Of the TouchStar[®] features, the Test will use

- Caller ID,
- Call Return, and
- Call Selector (Distinctive Ringing)

Caller ID, Call Return, and Call Selector have been selected because they are popular features supported by Advanced Intelligent Networks (AIN) which vary from an ordering and functional perspective.

4. Integrated Package Equivalency Class

BellSouth offers the following integrated packages for resale:

- Area Plus[®]
- Area Plus[®] with Complete Choice[®]

¹⁴ There's No Place Like Home: 1998 U.S. Residential Telecommunications Survey, IDC Report, August 1998

- Complete Choice®
- Visual Director®

The Test will incorporate Area Plus®, Area Plus® with Complete Choice® and Complete Choice® into the Test List as integrated packages. Visual Director® is not available in all BellSouth states, so we have chosen the universally available Area Plus® and Complete Choice® packages as the most appropriate representative packages.

Appendix B1: Pre-Ordering Scenarios

Pre-Ordering Scenarios

A. Primary Categories

Pre-Ordering Scenarios were generated by applying BellSouth's OSS electronic ordering business rules and logical business requirements across the following primary categories:

<i>Primary Categories</i>	<i>Definition</i>
Pre-Ordering Transaction Types	The type of pre-ordering transaction
Customer Types	The type of end user account linked to an order.

Figure B1 - I: Pre-Ordering Scenario Coverage

1. Pre-Ordering Transaction Types

Figure B1 - II lists the individual pre-ordering transaction types per Telecommunication Access Gateway Training - Release 2.1.

<i>Pre-Ordering Transaction Types</i>
Service Availability
Address Validation
Telephone Number Assignment
Customer Record
Appointment Availability
Due Date Calculation

Figure B1 - II: Pre-Ordering Transaction Types

2. Customer Type

The Customer Type category addresses only business and residential end users. The Master Test Plan excludes government.

B. Test Case Definition (Secondary Requirements)

Additional requirements or variables will be introduced below the Test Scenario level in order to define individual Test Cases. These secondary categories include:

<i>Secondary</i>	<i>Definition</i>
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<i>Categories</i>	
Query Criteria	Specific fields used for querying.
Sub Menus	Menus contained within transaction types.
Test Errors	Errors used to test TAG response functionality
TAG Responses	Messages generated by the TAG interface in response to particular transactions

Figure B1 - III: Pre-Ordering Test Case Coverage

1. Query Criteria

For many functions, the user may query for a piece of information in several ways. For example, to validate an address, the user may query either by telephone number or by address. This distinction merits unique test cases.

2. Sub Menus

The functions listed at the scenario level are at a high level and often include several sub-options. These sub-options translate into individual test cases. For example, within the telephone number reservation function there are several options that each need to be tested. These options include: “None,” “Easy,” “Sequential,” “Ascending Line Digits,” “Descending Line Digits,” and “Identical Line Digit.” The Telephone Assignment function also includes sub menus. The user may reserve, extend and/or cancel a telephone reservation for either a Telephone Number, Direct-in-Dial and Multi-line Hunt number. Combinations of these variables will form multiple test cases.

3. Test Errors

Errors will be introduced into the testing process to ensure that the TAG interface handles errors properly. For every error that will occur, there must be two test cycles: one to test that the particular function works correctly and the other to test that error handling and response works properly.

4. TAG Responses

In many cases, TAG has the ability to respond with different messages based on user input. Test cases will test each response to ensure that they function properly. Address validation, for example, responds to the user query with one of thirteen messages. Each message must be tested, thereby creating thirteen additional test cases.

C. Pre-Ordering Coverage Matrix

The following table illustrates coverage of the pre-ordering scenarios along the two primary categories described above.

Scen #	Scenario Description	Pre-Order Transaction Type					Customer Type			
		Service Availability	Address Validation	TN Assignment	Customer Record	Apptmt Availability	Due Date Calculation	Bus	Res	UNE
101	Address validation		X					X	X	X
102	CSR Inquiry for BellSouth residential customer who is a potential CLEC customer				X			X		X
103	CSR Inquiry for small BellSouth business customer who is a potential CLEC customer				X				X	X
104	Deferred CSR Inquiry for a large BellSouth business customer who is a potential CLEC customer				X				X	X
105	Feature availability lookup	X						X	X	X (port)
106	Appointment Availability					X	X	X	X	X (loop-port combo)
107	TN Inquiry			X				X	X	X (port)
108	Reserve, extend and cancel TN			X				X	X	X (port)
109	Available PIC Inquiry	X						X	X	X
110	Due Date Calculation						X	X	X	X

Figure B1 - IV: Pre-Ordering Coverage Matrix

Scenario #101: Address validation.

Scenario Description:

This pre-ordering scenario will test the ability of CLEC to validate customer's address.

Address validation will be queried by either the TN or address.

Test cases will include variations of customer type (Business, Residential, UNE) query criteria (TN or address), address validation response messages (thirteen options) and "resend" orders.

Network Configuration:

NA

Scenario #102: CSR Inquiry for BellSouth residential customer who is a potential CLEC customer.

Scenario Description:

BellSouth residential customer wants to switch from BellSouth to CLEC. After obtaining authorization, CLEC rep queries TAG for potential customer's service at BellSouth.

This scenario will generate multiple test cases based on customer type (Resale, UNE) desired information (billing or services) and query criteria (TN (Resale, Loop and Port Combo), Circuit ID and State code (SL2 UNE) or Miscellaneous Account Number (SL Loop)).

Network Configuration:

NA

Scenario #103: CSR Inquiry for small BellSouth business customer who is a potential CLEC customer.

Scenario Description:

Small BellSouth business customer wants to switch from BellSouth to CLEC. After obtaining authorization, CLEC rep queries TAG for potential customer's service at BellSouth.

This scenario will generate multiple test cases based on customer type (Resale, UNE) desired information (billing or services) and query criteria (TN (Resale, Loop and Port Combo), Circuit ID and State code (SL2 UNE) or Miscellaneous Account Number (SL Loop)).

Network Configuration:

NA

Scenario #104: Deferred CSR Inquiry for a large BellSouth business customer who is a potential CLEC customer.

Scenario Description:

Large BellSouth business customer wants to switch from BellSouth to CLEC. After obtaining authorization, CLEC rep queries TAG for potential customer's service at BellSouth.

This scenario will generate multiple test cases based on customer type (Resale, UNE) desired information (billing or services) and query criteria (TN (Resale, Loop and Port Combo), Circuit ID and State code (SL2 UNE) or Miscellaneous Account Number (SL Loop)).

Network Configuration:

NA

Scenario #105: Feature availability lookup.

Scenario Description:

This scenario will test the ability of CLEC to lookup the feature availability on particular LEC switches during the pre-order process.

Service availability will be queried for by NPA-NXX, CLLI and PIC Service Offerings.

This scenario will generate multiple test cases based on customer type (Business, Residential, UNE), NPA-NXX, CLLI and PIC Service Offerings.

Network Configuration:

NA

Scenario #106: Appointment Availability.

Scenario Description:

This pre-ordering scenario will test the ability of CLEC to view BellSouth's Central Office and Installation and Maintenance Calendars.

Appointment availability will be request by NPA-NXX. Response will include weekday availability, install intervals and scheduled holiday and close out dates.

This scenario will generate multiple test cases based on customer type (Business, Residential, UNE) and product type.

Network Configuration:

NA

Scenario #107: TN Inquiry.

Scenario Description:

A potential CLEC customer inquires about the availability of a vanity TN.

This scenario will generate multiple test cases based on customer type (Business, Residential, UNE), product type (simple resale line, DID, or Multiline Hunt) and TN option values (Random, Specific Number, Vanity Number, Easy, Sequential Line, Ascending Line Digits, Descending Line Digits, Identical Line Digits, Exception Numbers).

Network Configuration:

NA

Scenario #108: Reserve, extend and cancel TN.

Scenario Description:

This scenario will test the ability of CLEC to reserve, extend and release telephone numbers during pre-order negotiations.

This scenario will generate multiple test cases based on customer type (Business, Residential, UNE), product type (telephone line, DID, or Multiline Hunt), cancellation or extend options, and TN option values (Random, Specific Number, Vanity Number, Easy, Sequential Line, Ascending Line Digits, Descending Line Digits, Identical Line Digits, Exception Numbers).

Network Configuration:

NA

Scenario #109: Available PIC Inquiry.

Scenario Description:

This pre-ordering scenario will test the ability of CLEC to query for PICs. CLECs need to know which Interexchange Carriers are accessible from the customer's central office.

This scenario will generate multiple test cases based on customer type (Business, Residential, UNE).

Network Configuration:

NA

Scenario #110: Due Date Calculation.

Scenario Description:

This pre-ordering scenario will test due date calculation for new products & services.

This scenario will generate multiple test cases based on customer type (Business, Residential, UNE) and product type.

Network Configuration:

NA