

**BellSouth Telecommunications, Inc.**

**Report on the Region-wide Comparability  
of BellSouth's Pre-Order and Order  
Operational Support Systems as of  
May 3, 2001**

**BellSouth Telecommunications, Inc.**  
**Pre-Order/Order OSS Regional Comparability**

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**Independent Accountant's Report**

To Management of  
BellSouth Telecommunications, Inc.

We have examined management's assertions, included in the accompanying Report of Management Assertions on BellSouth Telecommunication's Operational Support Systems that as of May 3, 2001,

- BellSouth Telecommunications (BST) utilizes the same Pre-Order and Order operational support systems (OSS) throughout BST's nine-state region to support wholesale competing local exchange carrier (CLEC) activity, based on the criteria established in the Report of Management Assertions and Assertion Criteria on BellSouth Telecommunication's Operational Support Systems; and that
- BST's DOE and SONGS systems have no material differences in the functionality or performance for service order entry by the Local Carrier Service Centers (LCSC), based on the criteria established in the Report of Management Assertions and Assertion Criteria on BellSouth Telecommunication's Operational Support Systems.

These assertions are the responsibility of BST's management. Our responsibility is to express an opinion on management's assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and included such procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

In our opinion, the above described management assertions are fairly stated, in all material respects, as of May 3, 2001, based on the criteria set forth in the Report of Management Assertions and Assertion Criteria on BellSouth Telecommunication's Operational Support Systems.

This report is intended solely for the information and use of BellSouth Corporation, BST and the Federal Communications Commission or any Public Service Commission within the BellSouth operation region and is not intended to be and should not be used by anyone other than these specified parties. Our examination was not directed toward establishing whether compliance with the aforementioned criteria would constitute legal compliance with Federal Communications Commission or any state Public Service Commission orders or regulations and, accordingly, we express no such opinion.

*PricewaterhouseCoopers LLP*

PricewaterhouseCoopers LLP  
May 3, 2001

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BellSouth Telecommunications, Inc.  
675 West Peachtree Street, N.E.  
Atlanta, GA 30375

**Report of Management Assertions and Assertion  
Criteria on BellSouth Telecommunication's  
Operational Support Systems**

May 3, 2001

Management of BellSouth Telecommunications (BST) asserts that:

- BellSouth Telecommunications (BST) utilizes the same Pre-order and Order operational support systems (OSS) throughout BST's nine-state region to support wholesale competing local exchange carrier (CLEC) activity, based on the following criteria below; and that
- BST's DOE and SONGS systems have no material differences in the functionality or performance for service order entry by the Local Carrier Service Centers (LCSC), based on the following criteria below.

The following describes the sameness and comparability criteria:

**A. Region-wide Sameness of Pre-Order and Order OSS**

With the exception of DOE and SONGS, discussed below, BST management asserts that BST utilized the same Pre-order and Order OSS throughout BST's nine-state region to support wholesale CLEC activity. As it relates to this assertion, "sameness" is defined as the following:

- The applications and interfaces implemented and available are identical across the nine-state region. "Identical" is defined as one unique set of software coding and configuration ("version") installed on either one or multiple computer servers ("instances") that support all nine-states in an equitable manner.
- The processes, personnel and work center facilities are consistently available and employed across the nine-state region and there are no significant aspects to the processes, personnel or work center facilities that would provide one state a greater service level or benefit than the other states in the nine-state region.

**B. Comparability of DOE and SONGS**

Direct Order Entry (DOE) and Service Order Negotiation and Generation System (SONGS) are two of the order entry systems used within the BellSouth Local Carrier Service Centers (LCSC) to create service orders for various types of customer requests. These systems use screens, menus, on-line access to back-end legacy systems and on-line editing to automatically generate common order data entries. DOE is used in the "old Southern Bell states" (GA, FL, NC & SC), while SONGS is used in the "old South Central states" (LA, MS, TN, AL, & KY).

## 1. Comparability of "Functionality"

Both systems feed into Service Order Communications System (SOCS), an on-line system responsible for the collection, storage, and distribution of service orders to all user departments. SOCS accepts service orders from various input or negotiation systems. Pending orders and their associated history files are maintained and viewable in SOCS until they are cancelled, or the billing system notifies SOCS that a completed order has been posted. Once it is posted, the order is purged from the SOCS database.

BellSouth asserts that there is no material difference in functionality between DOE and SONGS. This assertion is based upon the following criteria:

- The same Local Service Requests (LSRs), created from a single set of business rules, are used for order entry
- SOCS requires the same LSR screening and validating procedure
- Similar processes are used for creating a Service Order
- SOCS requires checking for and clearing order entry or initiation errors
- Both systems output must adhere to the service order edits housed in SOCS

It should be noted that there are some input differences between DOE and SONGS. However, these differences are not considered to be material in nature. Examples of these differences are:

- Launch and log-on procedures
- Commands to navigate
- Function keys to initiate action
- Procedures for entering information, sending it to SOCS and clearing errors

## 2. Comparability of "Performance"

BellSouth utilizes a workforce modeling tool to capacity manage its LCSC transactions and personnel. Additionally, BellSouth measures performance of service for quantity and quality without regard to which system is used. The work force model utilizes standard work units of LSRs per hour per service representative as their basis regardless of whether the mode of entry for manual LSRs is through DOE or SONGS.

Regardless of state, service representatives use the same processes for LSR handling prior to order entry and for processing of orders after they are submitted to SOCS from DOE or SONGS. The time spent inputting an LSR into DOE or SONGS represents a small component of the overall lifecycle of an LSR. Considering the above, BellSouth asserts that there is no material difference in performance of order entry between DOE and SONGS based on the following the criteria:

- Orders that are input through both DOE and SONGS are created in SOCS on a real-time basis upon submission.

- Similar orders from throughout the nine-state region can be input within reasonably similar timeframes, regardless of whether DOE or SONGS is used.
- Service Representatives are cross-trained on both DOE and SONGS and utilize both systems on a regular basis dependent upon the relative volume and type of transactions by state.

A description of each of these operational support systems is included in the attached supplemental information.

  
William Stacy  
Network Vice President

**Supplementary Information**

### **SECTION III – EXECUTIVE OVERVIEW**

#### **A. Report Overview**

In recognition of its requirements to enter the long distance market under the “14-point checklist” set forth in Section 271 of the 1996 Telecom Act, BST and other third-parties have conducted compliance testing on BST’s OSS in Georgia and Florida. The management of BST requested that PricewaterhouseCoopers LLP (PricewaterhouseCoopers) perform an independent examination surrounding BST’s assertions that:

- BellSouth Telecommunications (BST) utilizes the same Pre-order and Order operational support systems (OSS) throughout BST’s nine-state region to support wholesale competing local exchange carrier (CLEC) activity, based on the criteria established in the Report of Management Assertions and Assertion Criteria on BellSouth Telecommunication’s Operational Support Systems; and that
- BST’s DOE and SONGS systems have no material differences in the functionality or performance for service order entry by the Local Carrier Service Centers (LCSC), based on the criteria established in the Report of Management Assertions and Assertion Criteria on BellSouth Telecommunication’s Operational Support Systems.

The management of BST has provided herein a description of the OSS as it relates to the Pre-Order and Order components, as well as the criteria surrounding its assertion that BST uses the same Pre-Order and Order OSS across its nine-state operating region (“region-wide sameness”), and that the DOE and SONGS system are, in all material respects, comparable in functionality and performance (“comparability of DOE and SONGS”). BST management is responsible for identification of the criteria underlying its assertions of region-wide comparability and material sameness of DOE and SONGS.

#### **B. Objective of Supplementary Information**

The objective of this information is to provide a description of the applications and processes specified by BST management to exist within the “Pre-Order and Order OSS”.



## **SECTION IV – DESCRIPTION OF OSS SYSTEMS**

### **A. Pre-Order Systems**

The Pre-Order process includes such functions as address verifications, requests for telephone numbers, requests for customer service record, service availability inquiries, service appointment scheduling and facility availability inquiries. BST management has identified those OSS applications within the Pre-Order domain as the following:

- **Local Exchange Navigation System (LENS):**  
LENS is a front-end interface for CLECs to process service requests for Local Exchange telephone service, resale services, directory listings, port/loop combination UNEs, and loop UNE service (with or without Interim Local Number Portability). LENS may be used either to gather specific telecommunications information from BST's existing databases, or to place orders for telecommunications products and services.
- **Telecommunications Access Gateway (TAG):**  
TAG provides a means by which CLECs access BST's OSS electronically for purposes of performing various Pre-Order and Order functions. TAG enables the CLECs and BST to exchange information about current and future resale services, UNEs and combinations of network elements.
- **RoboTAG**  
RoboTAG is the BST developed graphical user interface (GUI) to TAG that is used on local PCs by CLEC personnel. With RoboTAG, end users perform Pre-Order functions and place and track orders in the LEO back-end system with a set of GUI interfaces that will provide the required functionality that is necessary to perform this transaction.

### **B. Order Systems**

The Order process includes such functions as the submission of a service request by the CLEC, rejection of any service request with errors, confirmation that a valid service request has been received and a due date for the request assigned along with handling of CLEC service requests that automatically generate a service order on BST's service order creation system. BST management has identified those OSS applications within the Order domain as the following:

- **Local Exchange Navigation System (LENS):**  
LENS is a front-end interface for CLECs to process service requests for Local Exchange telephone service, resale services, directory listings, port/loop combination UNEs, and loop UNE service (with or without Interim Number Portability). LENS may be used either to gather specific telecommunications information from BellSouth's existing databases, or to place orders for telecommunications products and services.
- **Telecommunications Access Gateway (TAG)**  
TAG provides a means by which CLECs access BST's OSS electronically for purposes of performing various Pre-Order and Order functions. TAG enables the CLECs and BST to

exchange information about current and future resale services, UNEs and combinations of network elements.

- **RoboTAG**

RoboTAG is the BST developed graphical user interface (GUI) to TAG that is used on local PCs by CLEC personnel. With RoboTAG, end users place and track orders in the LEO backend system with a set of GUI interfaces that will provide the required functionality that is necessary to perform this transaction.

- **Electronic Data Interchange (EDI)**

EDI is a means for companies to electronically exchange batches of business documents using a standardized transmission format. Companies that exchange transactions using EDI are called trading partners. Trading partners must define the business information that is necessary to transact business and create a standard EDI transaction set exchange. EDI requires the use of industry standards that define the format and the data content of the business transaction. This allows each trading partner's system to clearly understand the transaction expected and the data necessary to conduct that transaction.

- **LSR Router (LSRR)**

LSRR acts as the receiving point for CLEC data from LENS, EDI or TAG processed by LEO. LSRR will parse out and send any data directed for LNP and DSL applications to their appropriate systems. For application release and version control, LSRR is considered part of LEO.

- **Local Exchange Ordering System (LEO)**

LEO receives & processes Local Service Requests (LSRs) from LENS, EDI, or TAG, which the CLEC may access using either their own GUI or a client supplied by BellSouth.

LEO performs validations of the data within the LSR and provides feedback to the CLECs regarding problems encountered. LEO maintains a status for each LSR to track transactions as they move through the process. For each LSR received in error-free condition, data from the LSR is transmitted downstream to LESOG.

- **Local Exchange Service Order Generator (LESOG)**

LESOG generates Service Orders from LSRs received from LEO and transmits the converted order to SOCS. Some complex transactions may not be convertible by LESOG and must be manually handled by LCSC personnel and input to SOCS through either DOE or SONGS.

- **Service Order Communication System (SOCS)**

SOCS is responsible for the collection, storage, and distribution of service orders from all user departments, including service order-driven mechanized systems. SOCS is an online system used by many departments, including resale and retail to process service orders. SOCS accepts service orders from various input or negotiation systems, and it is also possible for LCSC personnel to directly initiate service orders in the SOCS system outside of any negotiation system. Pending orders and their associated history files are maintained and viewable in SOCS until they are cancelled or the billing system notifies SOCS that a completed order has been posted.

In addition to the SOCS online programs, the SOCS daily offline cycle performs database maintenance and report generation functions necessary to administer the pending order file.

- **LNP Gateway**

The BellSouth LNP Gateway consists of a set of software applications that process LNP ordering and provisioning among:

- The BellSouth Network;
- The NPAC Service Management System; and
- CLEC networks.

The LNP Gateway has four main functions:

1. Processing LSRs for porting telephone numbers (TNs)
2. Transferring routing information about ported TNs from the NPAC to the BellSouth Advanced Intelligent Network (AIN) SMS
3. Supporting LNP Trouble Administration
4. Supporting interfaces to BellSouth Legacy Operational Support Systems and to remote terminals to support LNP

- **LNP Service Order Generator (SOG)**

The LNP SOG system automatically generates LNP orders from the LNP Gateway and helps Service Representatives at the LCSC by automating the following tasks:

- Retrieving information about LNP LSRs added to the LNP Gateway database
- Performing second-level validation on LNP LSRs
- Generating and tracking SOCS service orders for some LNP scenarios
- Adding FOC data to the LNP database
- Querying the LNP database and generating reports based on these queries
- Updating the LNP database with service order information

- **LNP Graphical User Interface (GUI)**

The LNP GUI is a user friendly front-end to LNP Gateway. It provides LCSC Service Representatives the ability to input LNP service requests and track service requests and orders within LNP.

- **Corporate Gateway (COG)**

COG provides a flexible and expandable gateway for the CLEC DSL interconnection environment. COG receives LSR data from LENS, TAG and EDI. COG will provide security, logging and mapping capabilities needed by BellSouth to both receive and send DSL interconnection requests.

- **Delivery / Order Manager (D/OM)**

D/OM provides the programmable sequence and control functionality necessary to manage BellSouth's creation of Designed UNE ADSL/HDSL/UCL Service Order Generation process. LSRs for DSL are received from COG, and validated within D/OM.

Order Manager will:

- Generate unique FRN (Facility Reservation Number) per instance of Order Manager.
- Provide sequence and control for Loop Qualification Inquiry, Loop Reservation Request, and Loop Reservation Cancel Request.
- Provide sequence and control for UNE ADSL/HDSL/UCL Firm Order Request.
- Generate Firm Order Confirmation, Completion, Clarify, Auto Clarify, and Reject Notification.

- **Service Order Generator (SOG)**

SOG converts customer data in D/OM into a format expected by the downstream systems in providing service. SOG completes the editing functions of the generated request to determine the accuracy and completeness of the data provided. SOG provides an open interface contract for D/OM.

- **Exchange Access Carrier Tracking (EXACT)**

EXACT's main functionality is to process IXC ASRs directly into SOCS. It processes new orders, change/modifications and disconnections of DS1 and special switched orders. EXACT can also be used by LCSC service representatives to input designed loop requests that cannot be input via DOE or SONGS.

- **Access TaskMate Ordering Process System (ATOPS)**

ATOPS automatically submits orders that have been input into EXACT. It copies all data into a SOCS readable format and submits the order to SOCS. ATOPS does not store data, it only submits the order data input into EXACT and therefore is considered part of EXACT for transaction testing purposes.

### **C. DOE & SONGS Systems**

Direct Order Entry (DOE) and Service Order Negotiation and Generation System (SONGS) are two of the order entry systems used within the BellSouth Local Carrier Service Centers (LCSC) to create service orders for various types of customer requests. These systems use screens, menus, on-line access to back-end legacy systems and on-line editing to automatically generate common order data entries.

- **Direct Order Entry (DOE):**

DOE is the front-end service order negotiation and generation system for Florida, Georgia, North Carolina and South Carolina accounts. It provides screens, fielded prompts, service order flows, menu selections, edits, error/informational messages, auto-typing/populating and order generation to facilitate generation of initial service orders and subsequent service order updates.

- **Service Order Negotiation System (SONGS):**  
SONGS is a front-end service order negotiation and generation system used for Alabama, Kentucky, Louisiana, Mississippi, and Tennessee. It provides screens, fielded prompts, service order flows, menu selections, edits, error/informational messages, auto-typing/populating and order generation to facilitate generation of initial service orders and subsequent service order updates.

#### **D. Local Carrier Service Centers**

Each of the Local Carrier Service Centers (LCSCs) are the Pre-Order and Order processing hubs for CLEC orders that require manual intervention. The Atlanta and Birmingham LCSCs are each dedicated to specific CLECs on a region-wide basis. In other words, CLECs that are assigned to the Atlanta LCSC will always work through that LCSC, regardless of the origin of the order, and the same is true with CLECs assigned to Birmingham. A third LCSC has been created in Jacksonville, Florida. However, the Jacksonville LCSC is not currently dedicated to specific CLECs, but instead is operating as a call center for inquiries and escalations for all CLECs on an overflow basis from the Atlanta and Birmingham LCSCs.

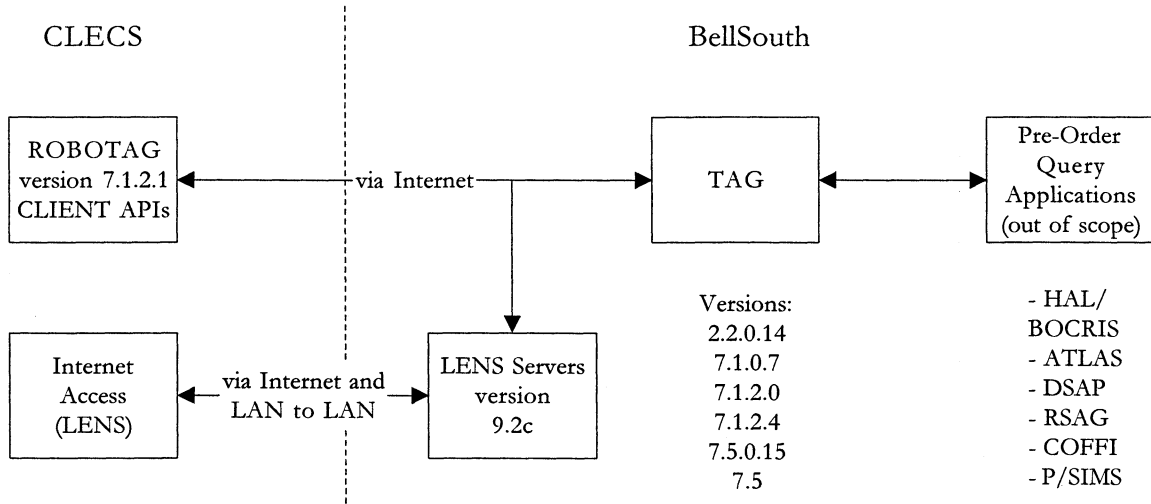
The LCSCs house the LCSC Project Management organization, which is responsible for coordinating large and/or complex provisioning and project implementation efforts for the CLECs. The Project Management staff is aligned to support the CLECs assigned to the Atlanta and Birmingham LCSCs.

There is also a Customer Support Management (CSM) organization responsible for creating efficiency throughout the order flow-through process. The CSM's work with internal and external resources to perform root-cause analysis of process problems, provide recommendations for solutions and work with the Account Teams and LCSC representatives to implement process improvement procedures.

A flowchart further detailing processes within the LCSC is included in Section V.

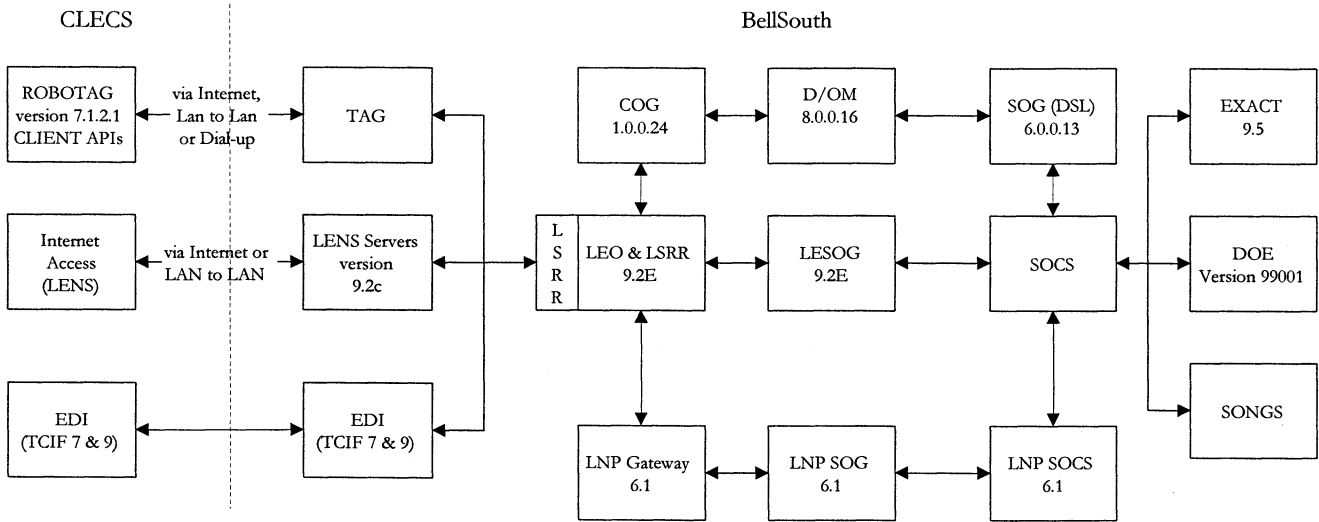
**SECTION V – SYSTEM & PROCESS FLOWCHARTS**

**Pre-Order Systems Diagrams**



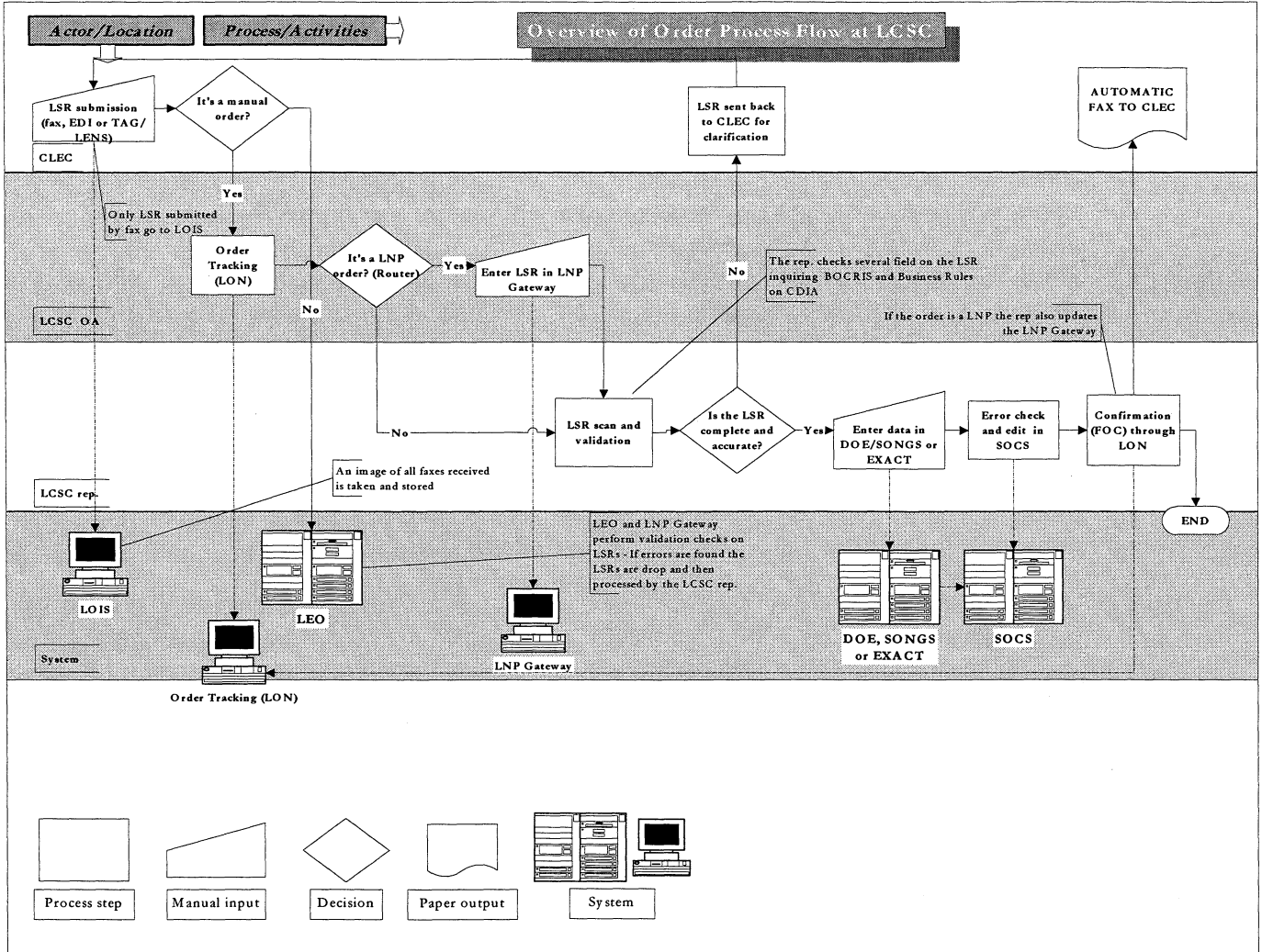
**SECTION V – SYSTEM & PROCESS FLOWCHARTS** *(continued)*

**Order Systems Diagrams**



**SECTION V – SYSTEM & PROCESS FLOWCHARTS** *(continued)*

**LCSC Process Diagram**





**SECTION VI – GLOSSARY OF ACRONYMS**

ADSL	Asynchronous Digital Subscriber Line
AICPA	American Institute of Certified Public Accountants.
AIN	Advanced Intelligent Network
BST	BellSouth Telecommunications, Inc.
CLEC	Competitive Local Exchange Carrier.
CMS	Customer Support Management.
COG	Corporate Gateway.
DOE	Direct Order Entry.
D/OM	Delivery / Order Manager.
DSL	Digital Subscriber Line.
EDI	Electronic Data Interface
EXACT	Exchange Access Carrier Tracking
FCC	Federal Communications Commission
FOC	Firm Order Confirmation.
GUI	Graphical User Interchange
HDSL	High Bit Rate Digital Subscriber Line
Instance	An installation of software on one computer server.
LAUTO	LNP Service Order Generator
LCSC	Local Carrier Service Center.
LENS	Local Exchange Navigation System
LEO	Local Exchange Order System
LESOG	Local Exchange Service Order Generator
LNP Gateway	Local Number Portability Gateway
LSR	Local Service Request
LSSR	LSR Router

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NPAC	Number Portability Administration Center
RoboTAG	Allows CLEC to access BellSouth's Telecommunication Access Gateway
SMS	Service Management System
SOCS	Service Order Communication System
SOG	Service Order Generator.
SONGS	Service Order Negotiation System
SSAE	AICPA Statements on Standards for Attestation Engagements.
TAG	Telecommunication Access Gateway
TN	Telephone number.
UNE	Unbundled Network Element.
Version	One unique set of software coding and configuration.