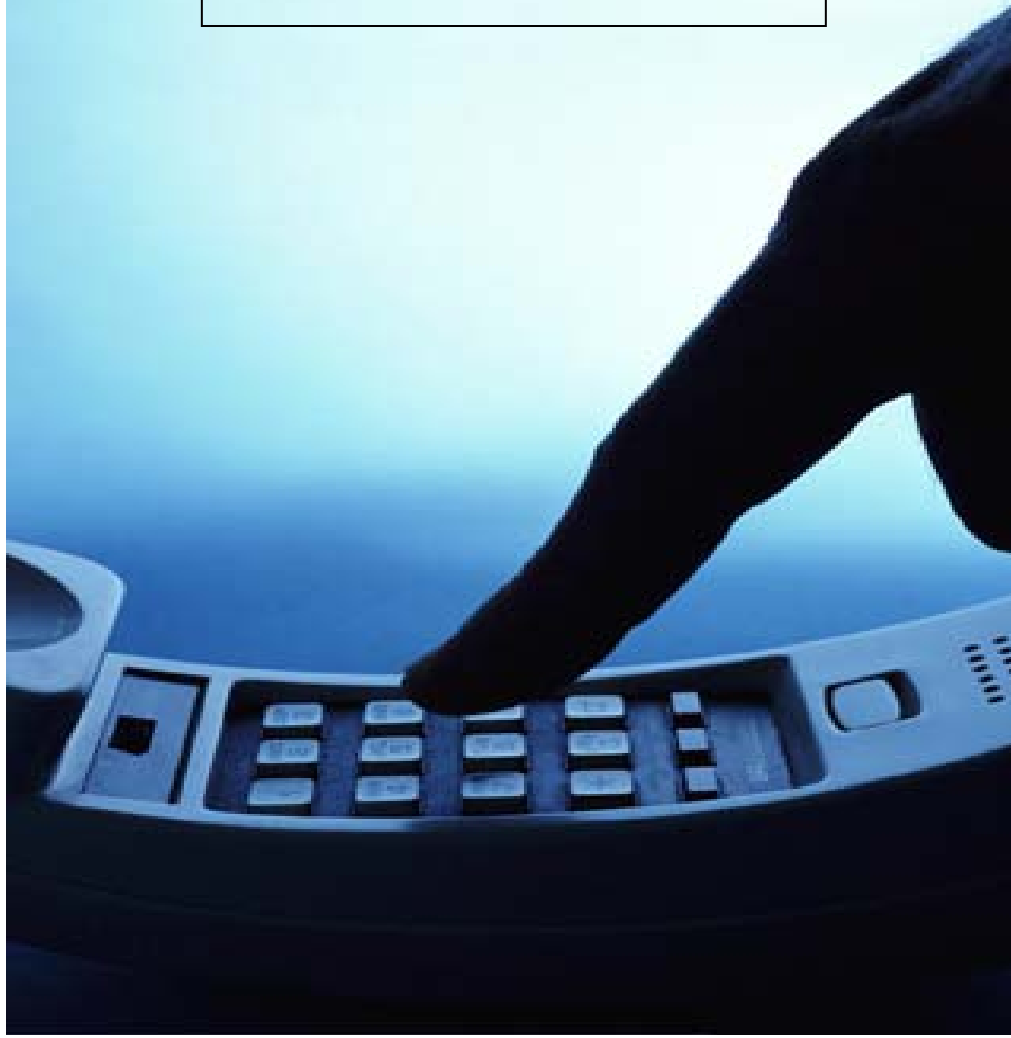


# MessageSource® Resource Guide



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## **Section 1 - Administration**

### ***MessageSource® Resource Program Overview***

Welcome to the MessageSource® Resource Program. The Program was created to assist Competitive Local Exchange Carriers (CLECs) with the MessageSource® product, from training and support to the function and operational services of SBC.

The guide is comprehensively designed to be both a reference during phone calls with subscribers and the overall resource for the MessageSource® product. Much of the document is written in the second person so that it can be read directly to the subscriber by CLEC personnel. This product is only available in the states of: Illinois, Indiana, Michigan, Ohio and Wisconsin.

### ***Program Objectives***

The Program consists of eight sections, each section building on the previous section. The Program was designed by a core team of SBC professionals and MessageSource Customers. The Program's objectives are as follows:

- Introduce the mission and structure of the MessageSource® Resource Program and provide an overview of the MessageSource® product and services.
- Share SBC's working knowledge of the Public Switched Telephone Network (PSTN) and provide an overview of the interrelation between the PSTN and the SBC Network.
- Teach the MessageSource® full range of features and functionality.
- Provide an overview of the roles and responsibilities of the CLEC Customer Service Center.
- Explain the roles and responsibilities of the MessageSource® Technical Assistance Center (MSTAC) and its focus on exceeding your expectations.
- Provide guidelines for subscriber customer management.

## *Program Reference Guide Introduction*

This reference guide contains detailed information about the MessageSource® product and the services provided by SBC. The reference guide provides structure during the presentation and functions as an ongoing training and work reference. The guide focuses on voice mail and its various applications; it is intended for CLECs offering Voice Messaging Services.

## *Features of the Guide*

To help you learn, use, and sell MessageSource® efficiently, the guide includes the following features:

- Information presented in both text and graphics to satisfy both logical and visual learners; processes are outlined in text and visuals for better understanding of terms and concepts.
- Quick reference cards which should be removed from the guide and placed in an accessible area for quick access to vital information.

## *Common Terms*

For clarity, common words and terms used in this document are defined here.

<b>Voice Mail (VM)</b>	The overall service
<b>Voice Mailbox</b>	The subscriber's own personal, secure mailbox
<b>Voice Mail Access Number</b>	The telephone number subscribers use to access their messages
<b>Subscriber</b>	The person who purchases a voice mailbox
<b>Caller(s)</b>	The people who call the subscriber and leave messages in the subscriber's voice mailbox
<b>Competitive Local Exchange Carrier</b>	Provides the Voice Mail service to subscribers; you are the Competitive Local Exchange Carrier (CLEC)

## *Program Timeline*

The MessageSource® Resource Program timeline consists of four phases conducted in a three week period:

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### *Phase One/Planning*

- Contract Signed
- Program planning session scheduled with customer's senior management personnel. This initial contact will provide an overview of the topics that will be presented in the Resource Program, who should attend, and a scheduled date for the presentation of the Program. SBC strongly recommends the CLEC's customer service, sales, marketing and senior management staff attend.

### *Phase Two/Preparation*

- Interview conducted with CLEC's Program participants to determine current knowledge and skill sets. This will enable our Program presenter to conduct an effective and efficient program.
- Logistics of Program presentation determined.

### *Phase Three/Presentation*

- MessageSource® Resource Program presented to CLEC.
- Review open items encountered during the program and assign responsibility and completion dates.
- Kickoff of production phase!

### *Phase Four/Review and Resolve*

- Review and resolution of open items.

### ***Recommended Program Participants***

We recommend every person involved with the MessageSource® product be present during the entire Program session. Cross-learning enables the CLEC's senior management, sales, marketing and customer service organizations to understand the roles and responsibilities of each organization. This increases accountability and communication because everyone has an understanding of both the "big" and the "small" picture. A comprehensive knowledge base and a detailed understanding of MessageSource® is the strongest insurance for success.

Based on our experience, we strongly suggest the following participants attend the Program:

- Everyone accountable for the successful launching of the MessageSource® product.
- Everyone in the organization who will support, service, market, or sell the MessageSource® product.

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- Anyone outside of the organization that will support, service, market, or sell the MessageSource® product. Examples include: suppliers, contract personnel, etc.
- Participants need not be concerned with their knowledge of the telecommunications industry or their specific job duties. The Program is designed to simultaneously enable new and seasoned employees to learn about MessageSource®.

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## Section 2 – Understanding the Network

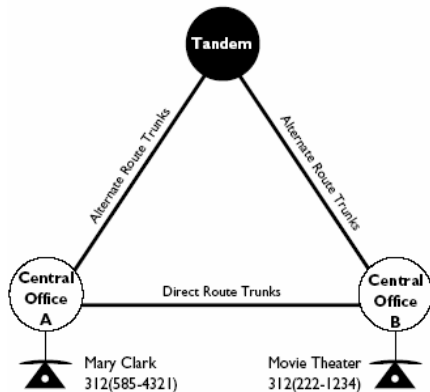
Understanding the components of the Public Switched Telephone Network (PSTN) is of vital importance. By understanding call processing within the PSTN, CLEC's will better be able to troubleshoot subscriber problems.

### *Understand the Network to Understand Voice Mail*

The PSTN is the entire national telephone system, not solely the SBC Network. It is composed of all telecommunication providers and is available to the general public, other carriers, and networks. The PSTN system is composed of thousands of hardware and software components that link hundreds of services together—seamlessly connecting a nation of end users.

### *A Typical Telephone Call*

To introduce the basic operation of the network, this section provides a functional description of a land-line to land-line telephone call, the most familiar service provided by the PSTN. The terms used in this section are included in the glossary. The figure below illustrates, in a simplistic way, how a typical telephone call occurs. Mary Clark's phone service is provided by Central Office (CO) A. The movie theatre's phone service is provided by Central Office B.



Direct Route Trunks, which are high capacity phone lines, interconnect central offices. In this illustration:

1. Mary Clark lifts her receiver.

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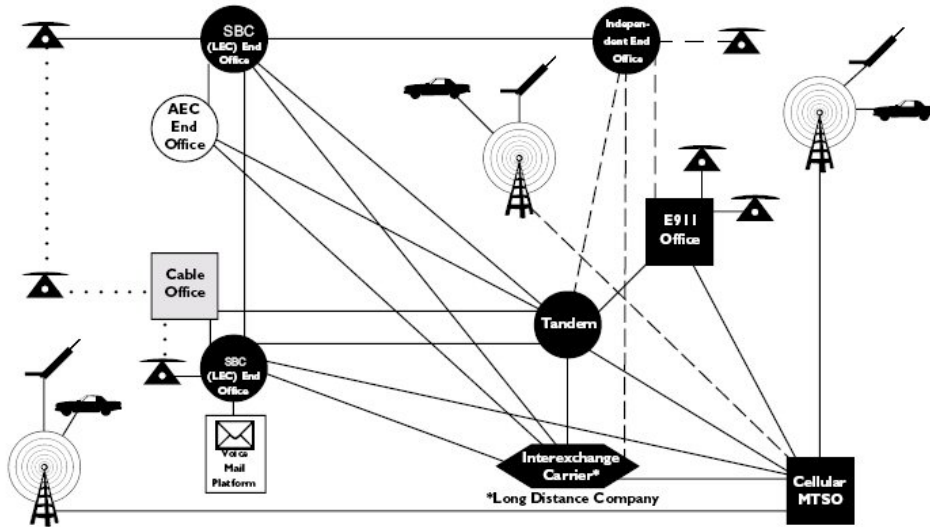
2. Central Office A detects the switch-hook in her phone has been disengaged and connects dial tone to her line.
3. Mary Clark dials the movie theater's telephone number.
4. Central Office A collects the digits and compares them to a translations database it keeps of all NPAs/NXXs belonging to its own office.
5. Central Office A determines that movie theater's NPA/NXX does not reside in its office. The translations database indicates in which central office the movie theatres' NPA/NXX resides.
6. Central Office A determines which path to transmit the call across, requests a channel on the Direct Route Trunk (which connects offices A and B) and connects the call. If a direct route is unavailable, the quickest alternate route will be taken.
7. Central Office B collects the digits and compares them to a translation database it keeps of all NPAs/NXXs belonging to its own office.
8. Central Office B determines that the movie theater's telephone number resides in its office.
9. Central Office B connects the call to the outside plant; it is then carried to the movie theater.
10. The telephone rings at the movie theater.

Steps 4 through 10 occur within one to two seconds.

Tandem Switches interconnect long distance calls to long distance telephone companies.

### *The Network Behind the Typical Call*

The PSTN handles hundreds of services in addition to a typical telephone call. Simultaneously, voice, data and video are being transported across the PSTN via numerous land-line, cellular, microwave and satellite facilities. The graphic below illustrates the complexity of the PSTN. It is important to remember that SBC is not the sole provider of the PSTN. All telecommunication companies have interconnection capability within this national network.



Note: LEC=local exchange carrier; MTSO=cellular central office

### ***SBC Network Facilities***

SBC's core business is the provision and maintenance of regulated, intra-LATA telecommunications and exchange access services within its operating territory—Midwestern states of Illinois, Indiana, Michigan, Ohio and Wisconsin.

The SBC network, in a broad sense, is a system of interconnected components. A telecommunications network is necessary when certain types of services must be provided to many widely dispersed customers. Traffic is the flow of information or messages through the network. Traffic may be generated by simple telephone conversations, or it may be the result of more complex data, video and audio services. A telecommunications network, then, is a system of interconnected facilities designed to carry traffic that results from a variety of telecommunications services

The telecommunications network as a whole has two different but interrelated aspects. In terms of its physical components, it is a facilities network. In terms of the variety of telecommunications services that it provides, it is a set of many traffic networks, each representing a particular interconnection of facilities. SBC network facilities, in basic terms, is made up of nodes (switching offices and facility junction points) which connect calls to *links* (the transmission path between a customer's station equipment and a switching system).

### ***Independent Network Facilities***

In addition to SBC and the other major players in the Bell System, numerous independent telephone companies and other common carriers also own both

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transmission facilities and switching systems. All telecommunications companies interconnect into the PSTN.

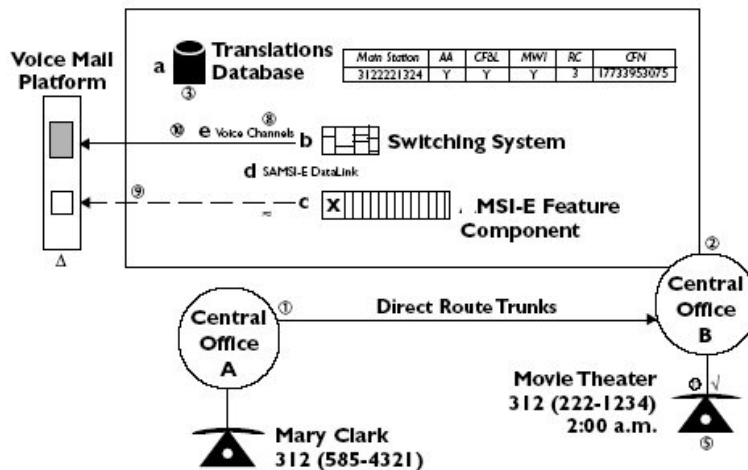
*Central Office Functions*

A central office (CO) is a local switching system that interconnects and directs a network of incoming and outgoing data. The CO connects callers to the Voice Mail platform when the subscriber's phone is in use and/or is not answered. The primary function of the local switching system is to interconnect circuits. The CO houses the physical facilities and technology which enables Voice Mail to function. (See Section 7 for information on the features used with Voice Mail.)

*The Voice Mail Transport Process*

The Voice Mail transport process is built within the basic telephone call. However, in the case of Voice Mail, if the Voice Mail subscriber doesn't pick up their phone or is occupied on another call, the call is forwarded to the Voice Mail platform by the central office switching system. The caller can then leave a message.

Graphic below illustrates how a call placed to a Voice Mail subscriber reaches the Voice Mail platform and the subscriber's mailbox.



1. Mary Clark calls the movie theater. The voice call and the call history information (CHI) transport over the same trunk. Included in the CHI is the Called Number, Caller's Number, Call Forward Number, and Transfer Status (busy or don't answer).

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2. The switching system (b), consults the translations database (a) to inquire if any features are assigned to the line.
3. The translations database (a) indicates the movie theater has the features Call Forward Busy Line (CFBL), Alternate Answer (AA), Message Waiting Indicator (MWI) and a Ring Cycle of three.
4. The switching system rings the theater's line.
5. The movie theater, a Voice Mail subscriber, is closed and no one is available to answer.
6. After three rings, as indicated in the translations database (a), the switching system forwards the call (as directed by the AA feature) through the AMSI-E feature component (c).
7. The MSI-E feature component (c), splits the CHI from the voice call and transports the CHI to the Voice Mail platform over a high speed MSI-E datalink (d), or SMDI link. The voice call information is transferred over a T1 datalink.
8. The switching system (b) then forwards the voice call to the Call Forward Number (CFN) indicated in the translation database (a). The call is forwarded to the Voice Mail platform via a voice channel (e) on the T1.
9. The CHI reaches the platform prior to the voice call. The platform captures the CHI and uses it to locate the subscriber's mailbox. The platform establishes a link from the mailbox to the incoming channel carrying the voice call.
10. When the voice call arrives, the platform connects the link and the mailbox plays the personal greeting to the caller.
11. When the caller terminates the call, the platform drops the link and frees the voice channel for a new call. The platform sends a signal to turn MWI "on" over the same SMDI-E link that carried the incoming CHI information to the switching system (b). When the movie theater picks up the phone, the switching system will send a special dial tone signal.

### ***NPA/NXX Numbering Plan***

The NPA (area code) and NXX (exchange) Numbering Plan was created to identify each main station number by a convenient, unique address that is readily understandable. It is similar in format to those of other main stations connected to the network.

The NPA/NXX Numbering Plan is important because it identifies the NPA/NXXs which have the network features, such as SMDI, necessary for MessageSource® Voice Mail. For each NPA and NXX (area code and exchange) SBC lists its line features availability. A list of valid NPA/NXXs can be obtained through the *Passage* Web site.

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Please note that only certain NPAs and NXXs have all the appropriate network features necessary for supporting MessageSource Voice Mail. These NPA/NXXs not on the valid NPA/NXX list may not support the following MessageSource features: Message Waiting Indication, Personal Greeting, or Personal Receptionist. Non-listed NPA/NXXs may also include toll charges for Call Forwarding.

### ***Signaling System Seven (SS7)***

SS7 is a signaling system that runs on a network different than voice network. The SS7 network is used to satisfy two functions that are required for complete Voice Mail operations.

First, the SS7 network provides the messaging platform with a call history information (CHI) packet each time a call is directed at the Voice Mail access number. The messaging platform uses the CHI packet to identify the mailbox to connect with the specific voice call.

Second, the SS7 network delivers Message Waiting Indication (MWI) ON and OFF packets to the appropriate station numbers. The SS7 network is connected to the messaging platform through an MSI-E link. MSI-E stands for Messaging Signal Interface—Expanded. The MSI-E link carries the call history packets from the SS7 network to the platform and also carries the MWI ON and OFF packets from the platform to the SS7 network. Calls routed to the MessageSource® Voice Mail platform, using non-SS7 networks or SS7 networks that do not transmit the CHI packet, will not receive (hear) the subscriber's greeting. This includes any B and B and C or Toll calls using LPIC or long-distance PIC codes.

### ***CNS Features***

Line Features, also referred to as Complementary Network Services (CNS) Features, are features programmed into the translations database for a specific main station number. These features direct the switching system to handle Voice Mail calls differently than it would a standard telephone call. Line features are required for Voice Mail to function correctly.

### ***The Voice Mail Access Number***

The Voice Mail Access Number has dual functionality. It is the telephone number Voice Mail subscribers use to access their Voice Mail box and the number to which Voice Mail calls are forwarded. Each NPA/NXX has a specific access number. Different Voice Mail platforms have different access numbers.

The Voice Mail Access Number is also the call forward number (CFN) programmed in the translations database which directs the switching system to forward calls to the subscriber's Voice Mail platform.

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Each CFN connects into a Voice Mail platform. The platform answers the transferred call with either a personalized greeting (if a mailbox exists) or what is called a generic greeting. The purpose of the generic greeting is to connect the caller to the mailbox so that they can leave a message or access the mailbox if they are the subscriber.

When a subscriber is first setup for MessageSource® Voice Mail, the Voice Mail Access Number (CFN) must be programmed in the switch for that line. The MessageSource® Voice Mail Access Numbers (CFNs) are found later in this section. For MessageSource® Voice Mail to work properly, it is critical that the CFN is changed from its former Voice Mail provider's CFN to a MessageSource® CFN. In many cases, your customers are switching from SBC local phone and Voice Mail service to your local phone and Voice Mail service. When a customer switches from SBC (retail) Voice Mail to SBC MessageSource Voice Mail, it is critical their CFN changes from their retail CFN to a MessageSource CFN. Note that SBC retail and wholesale Voice Mail products are provided by different manufacturers and therefore have different CFNs.

### ***Message Source® Voice Mail Access Numbers***

#### **Akron**

330/376-0509

#### **\*Chicago**

Bartlett 630/736-7024

Bolingbrook 630/226-2100

Glenview 847/486-7024

Humboldt 773/395-3075

Libertyville 847/247-6024

Merrillville 219/791-2376

Oakbrook 630/472-6824

Palos Park 708/923-9465

Riverdale 708/201-2844

#### **Cleveland**

440/546-5784

#### **Columbus**

614/222-8336

#### **Dayton**

937-586-4382

#### **\*Detroit**

Plymouth 734/207-3100

Pontiac 248/339-5350

Redford 313/255-6190

Warren 810/825-0550

Wyandotte 734/282-4110

#### **Grand Rapids**

616/365-3555

#### **\*Lansing**

Lansing 517/371-7475

Jackson 517/796-2000

#### **Milwaukee**

414/443-7500

#### **Toledo**

419/244-1490

\* Refer to the NPA/NXX listing to determine which Voice Mail Access Number to provide to the customer.

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## **Section 3 - SBC Roles and Responsibilities**

### ***Introduction***

This chapter explains the operational and business guidelines between SBC, your company, and the subscribers. To assist in the description of roles and responsibilities, the Voice Mail application, and its services and features, must be defined. The Voice Mail service has two components, the subscriber CNS (line) features and the voice mailbox.

### ***SBC Voice Mail Platform***

The SBC Voice Mail platform is a centrally located computerized voice storage and forward device equipped to handle high volumes of activity. It may be helpful to think of the Voice Mail platform as a large telephone answering machine capable of handling hundreds of subscribers at the same time.

### ***Subscriber CNS Features***

Subscriber CNS features are provided by SBC, or a subscriber's Competitive Local Exchange Carrier (CLEC) on the subscriber's line and involve the automatic forwarding of calls and the notification that there are messages in the voice mailbox. The features most used with Voice Mail are Alternate Answer, Busy Line Transfer and Message Waiting Indicator. The CLEC will act as the subscriber's agent in ordering line features, commonly called Complementary Network Services or CNSs.

### ***Roles***

- Provides the actual mailbox, lines, and services necessary to access the mailbox.
- Is the primary contact for the CLEC.

*Please note that SBC does not provide direct support to the Voice Mail subscriber.*

### ***Responsibilities***

- Provides the access lines and mailbox services.
- Activates the voice mailboxes requested by the CLEC.
- Facilitates the ordering of and provides the subscriber line features.
- Provides to the CLEC 24-hour MessageSource® Technical Assistance Center (MSTAC) *emergency* support for mailbox issues.
- Provides all repair and maintenance for Voice Mail services and network outages.
- Collects and bills voice mailbox charges to the CLEC.

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## Section 4 - CLEC Roles and Responsibilities

### ***Introduction***

As the Competitive Local Exchange Carrier (CLEC), you are responsible for all direct contact with the subscriber concerning the Voice Mail service, subscriber line features, and questions or inquiries concerning the charges for the service. You are the first and primary point of contact for the Voice Mail subscriber.

### ***Roles***

As the CLEC, you sell and provision the Voice Mail service and act as the subscriber's agent in the following:

- Ordering mailboxes and subscriber line features.
- Providing accurate, timely billing information to their subscribers.
- Offering instructions and documentation to the subscribers on the use of the Voice Mail service.

*Note: The CLEC, not SBC, is the primary subscriber contact.*

### ***Responsibilities***

As the CLEC, your responsibilities include:

- Preparing and submitting accurate orders for voice mailboxes and subscriber line features. Understand and abide by the rules for ordering line features within the scope of the service.
- Representing only your company when communicating with the subscriber. The CLEC may not present themselves as SBC or indicate they are acting on behalf of or as an affiliate of SBC.
- Selling Voice Mail services, including the setting and accurate quoting of all applicable charges.
- Maintaining accurate account records of subscriber's mailbox configuration (COS), MLHG configuration, mailbox activity history, and line feature configurations.
- Providing instructions to the subscriber concerning the operation of the Voice Mail service (see *User Guide* in this section on designing the Voice Mail interface and user guide).
- Determining if the subscriber is eligible for Voice Mail by using the monthly NPA/NXX listings available via the *Passage Web* site and verifying no restrictions apply (see Section 6).
- Identifying and discussing the line features required, including setting and quoting all applicable charges.
- Preparing and submitting Voice Mail charges and credits for billing.

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- Acting as the primary subscriber liaison concerning all questions regarding Voice Mail services -- including, but not limited to, repair and maintenance, "how-to-use" questions, and all inquiries or adjustments regarding charges.

The diffusion of technology and the proliferation of providers of that technology have de-emphasized product as the factor that most distinguishes one Voice Mail provider from another. In the current market, the emphasis has shifted to the quality of customer support.

When the Voice Mail system, and your customer's interaction with it, is functioning properly, your customers may not think of their Voice Mail provider at all. However, when problems arise or customers need technical assistance, it is imperative they feel secure knowing their problem can be solved. Statistics show that seventy percent of customers change companies because of poor service; in telecommunications, your position as a Voice Mail provider can easily be made or destroyed by the quality of your customer support.

Ultimately, as a Voice Mail provider, you are responsible for transforming your product into solutions for your customers' needs, including their problems and changing service requirements.

### *Troubleshooting Responsibilities*

Prior to calling the Local Service Center (LSC), MessageSource® Technical Assistance Center (MSTAC), or Customer Response Unit (CRU) regarding subscribers' service problems the CLEC must exhaust all of the following procedures:

1. The CLEC should attempt to resolve the problem through the MessageSource® Resource Program Reference Guide. Specifically, the CLEC should know how to use the MessageSource® interface, and be able to explain to subscribers keypad interaction methods in order to properly activate the Service.
2. The CLEC should understand the basic operations of the services and how the calls are carried and delivered through the telephone network.
3. The CLEC should verify that the problem stated by the subscriber exists, either by experiencing or recreating the problem.
4. The CLEC should verify that the MessageSource® voice mailbox exists on the platform by calling the Voice Mail Access Number and entering the subscriber's mailbox number for verification.
5. The CLEC should verify the up-to-date status and features of the subscriber's mailbox by consulting its internal database to obtain the subscriber's service record.
6. The CLEC should verify that the subscriber's problem is not actually a problem with the subscriber's Complementary Network Services (line features).
7. The CLEC should verify which CNS features the subscriber has and be able to provide that information to the LSC, MSTAC, or CRU upon request.
8. Prior to calling the LSC, MSTAC, or CRU, the CLEC should obtain from the subscriber a clear and succinct description of the problem.

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## Information Required for MSTAC Trouble Reporting

When placing a call to the MTAC, please be prepared with the following information:

- Main mailbox number (BTN)
- MLHG mailbox number(s)
- Voice Mail access number
- Initial or repeat trouble
- If repeat, be prepared with history
- Date/time trouble first occurred
- Detailed description of the trouble
- Date of last mailbox order activity
- Date of last line feature order activity
- Description of line features on the main and MLHG lines

### *Training*

Because customer service personnel have more frequent and continuous contact with customers, CLECs must provide their customers with quality support services.

Training for customer support personnel should include:

- Interactive training sessions shortly before and a review session after product launch, including complete descriptions of both the MessageSource® product and its interaction with the PSTN, pricing and packaging of all services offered, and how orders for services should be processed.
- Training materials should include the *MessageSource® Resource Guide*, sales and marketing materials, user guides provided to the customer by the sales staff, and the CLEC's quality assurance materials. An invaluable training tool is a trouble tracking log which documents and troubleshoots the most common Voice Mail questions and complaints. Use the log to educate your customer support personnel, that way they won't have to recreate the wheel every time there is an issue concerning a subscriber's Voice Mail.
- A positive problem-solving approach emphasizing that a customer's problem is the CLEC's opportunity to improve and strengthen customer relations, is strongly recommended.

### ***Slamming***

Slamming is a term used to describe the act of changing a subscriber's Voice Mail service or switching the service to a different CLEC without the authority of the subscriber.

FCC regulations require telecommunication companies to obtain written or verbal permission directly from the subscriber to the CLEC to create, modify, change, enhance, disconnect, or charge for telecommunication services.

If you attempt to create a mailbox for a new subscriber, the MSTAC may indicate that the mailbox is already active and is serviced by another CLEC. Under FCC regulations, the MSTAC is barred from deleting this mailbox and establishing the service with you.

### ***Letter of Authorization***

A CLEC-issued Letter of Authorization (LOA) is a legal document that ensures that the end user subscriber has authorized another CLEC to discontinue their voice mail service with their existing provider. It is protection against slamming for both the end-user subscriber and the CLEC currently providing the service.

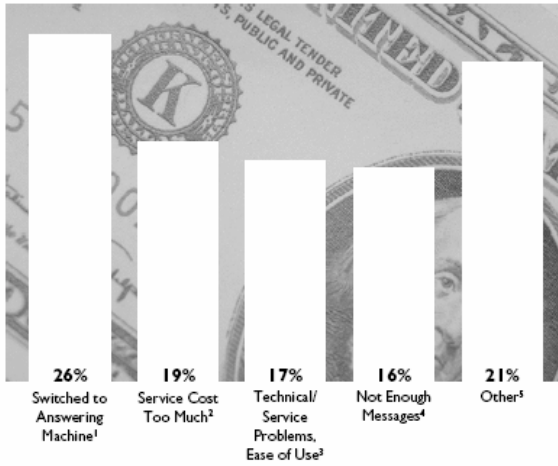
A CLEC attempting to provision a new mailbox that is currently active by another CLEC must submit, via fax, a mailbox LOA indicating the mailbox number to be disconnected. The mailbox LOA confirms that the subscriber has authorized cancellation of their voice mail service with their existing voice mail provider (a different CLEC).

The MSTAC will contact the assuming CLEC when the mailbox disconnect order is complete. The assuming CLEC may then submit, via the *Passage* Web site, a create mailbox order.

### ***Customer Retention***

Once you acquire a customer base, it is imperative to retain it. The turnover (acquisition and loss) of the customer base is called *churn*. Providing quality customer support is the most important factor in controlling churn. While certain causes of churn are beyond your control (the customer moves or is unable to pay bill, etc.), others, such as service problems and poor technical support, *are* controllable. Figure below shows the main factors of customer churn, the timing of churn from the date of sale, and the timeline of a typical churn reduction program.

## Churn Factors



<sup>1</sup>Indicates that the advantages over an answering machine need to be part of the Sales approach:

- Voice Mail takes messages when you are on the line.
- Voice Mail is not prone to mechanical failure or power outages.

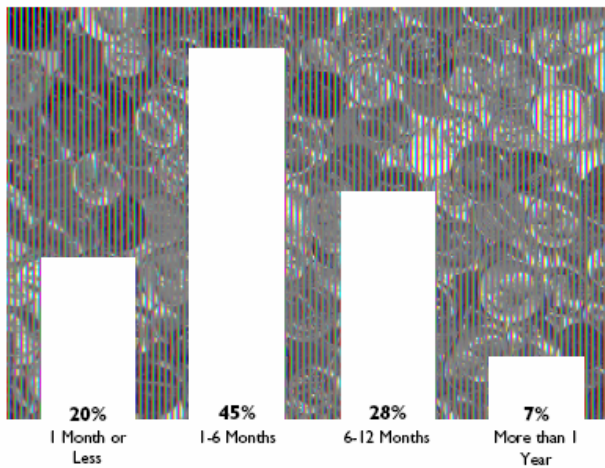
<sup>2</sup>Indicates that benefits weren't perceived as worth the price. Need to emphasize the value of a lost call as being greater than the price of Voice Mail.

<sup>3</sup>Indicates training problem, poor user guide, or customer service failure.

<sup>4</sup>Indicates that the wrong customers were targeted.

<sup>5</sup>Lack of Call Screening; too many services and poor features; interaction; inability to adjust Ring Count; didn't like Special Dial Tone

## Timing of Churn from date of sale



**If you keep the subscriber for a year, you keep the subscriber long-term.**

## Churn Reduction Program – First year of Service

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- Selective targeting of segments by their need for Voice Mail benefits

- Clean orders
- Prompt provisioning
- User education materials
- Accurate management of account records

- Initialization support
- Helpful hints
- Aggressive customer care

- Selective customer care
- Helpful hints

- Suggest additional functionality
- Customer satisfaction survey

**If a customer wants to disconnect service in the first month a sale can be saved you will keep the customer long-term.**





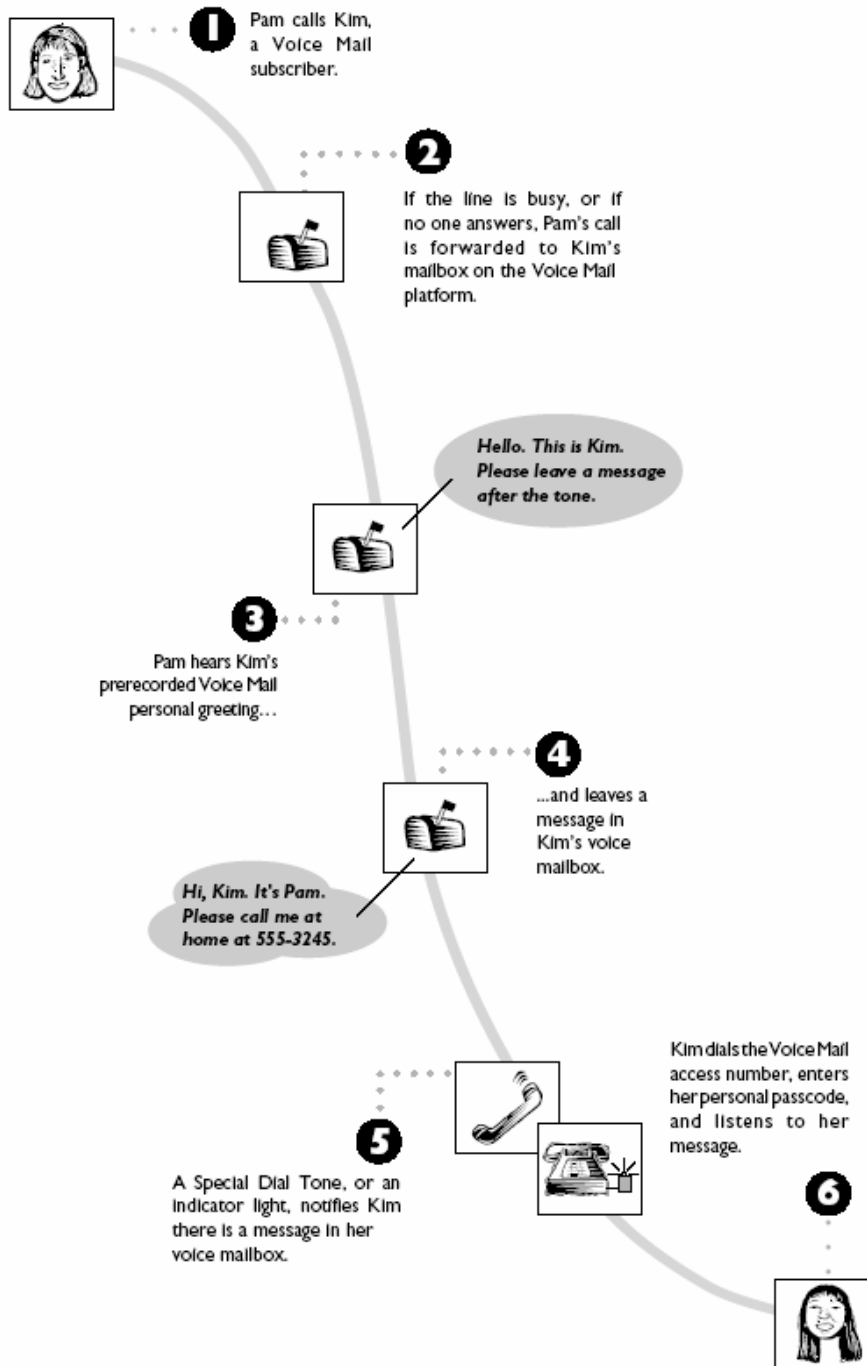
## **Section 5 - Voice Mail General Description**

### ***Introduction***

Voice Mail is an automated 24-hour telephone answering service with many unique features. If a subscriber's line is busy or the phone is not answered, calls are automatically forwarded to a voice mailbox. Subscribers easily retrieve their messages by dialing into Voice Mail from any touchtone phone. Voice Mail is easy to use since it provides voice instructions that guide subscribers through each step (see Figure 1 for a typical subscriber/Voice Mail interaction).

The basic mailbox service is fully integrated with the subscriber's line (voice mailbox is fully integrated with the subscriber's home or business telephone service). Fully integrated service provides automatic forwarding and message waiting indication, as opposed to Direct Inward Dialing (DID), a voice mailbox which is separate from any home or business telephone number.

# Figure 1 Typical Subscriber/Voice Mail Interaction



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## ***Advantages of Voice Mail***

*It's comprehensive.*

- With Voice Mail, you will not miss any messages. The service takes messages when you do not answer the phone and it even takes messages when you are on the phone! And in most situations, it will take messages from more than one caller at a time.
- The service lets you know that messages have arrived by playing a Special Dial Tone when you pick up the receiver, or you can be paged. You can save messages for future reference, add Future Delivery to a recorded message to be used as a reminder service.

*It's easy to use.*

*It's efficient.*

- A pleasant, friendly voice instructs you on how to use the service and guides you through all of the features. Experienced users need not listen to the instructions; once you become familiar with the menus, you can press a key as soon as you know your next action. When listening to messages, you can:
  - Pause during message playback.
  - Skip to next message.
  - Replay a message.
  - Return to a previous message in the mailbox.
  - Fast forward or rewind in five-second increments.
  - Hear the time and date a message was received.

*It's flexible.*

- Communication involves conveying information. It is often more convenient to send a message to a person's mailbox than it is to reach that person with a telephone call. If you need a question answered, send a detailed voice message and ask the recipient to send a detailed reply. With Voice Mail, you have a record of your communication and you can forward copies of messages that you receive. You can mark messages urgent so that they will be heard first.
- When people communicate with you via Voice Mail, you avoid interruptions. You can respond to messages at your convenience, and at the time and place that you choose.
- You can listen to your messages from any touchtone telephone.
- If you have deleted a message in error, you can still replay and save that message before you disconnect from Voice Mail.

*It's economical.*

- There's no need to invest in equipment that can break or become obsolete.

*It's reliable.*

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- There's no equipment which children or pets can play with. Voice Mail works 24 hours a day. You need never worry about turning it on or off.

*It's personal.*

- Callers hear a personalized greeting recorded in your voice. You choose a six-to ten-digit personal pass-code to ensure the privacy of your messages. No one, not even telecommunication company employees, can listen to your messages.
- Each member of your household or business can have their own fully functional, private sub-mailbox, so that callers can leave confidential messages for a particular person.

### ***Overview of Setup Procedure & Features***

The following are features available to Voice Mail subscribers, depending on the package ordered.

#### *Voice Mail Setup Procedure*

The first time you call Voice Mail, instructions will guide you through a quick and easy setup procedure. You are asked to create a pass-code, record your name, and record a greeting. This procedure is also called the "initialization procedure," but the voice instructions and Reference Guide use the phrases "getting started" and "setting up your mailbox" for the subscriber.

#### *Call Answering*

With Call Answering, if your phone is in use, or not answered when someone calls, the caller is automatically forwarded to your mailbox. Callers will hear a greeting recorded by you after which they can leave you a message. You can then call Voice Mail and listen to your messages.

#### *Secondary Mailboxes (Optional Feature)*

You can create personal, private sub-mailboxes for each person in your home or business. You record a greeting that tells callers which keys to press to leave a message in a specific sub-mailbox. In particular, households with adult relatives, teenage children, or roommates appreciate the privacy and convenience of sub-mailboxes. In homes with many different callers, you do not have to proceed through the list of other household members' messages prior to hearing your own.

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### *Pager Notification (Optional Feature)*

The Pager Notification feature signals your pager when messages marked urgent arrive in your mailbox. *Note: This feature cannot be used with sub-mailboxes.*

### *Voice Messaging*

Voice Messaging allows you to send a recorded message to other subscribers' mailboxes without ringing their telephone. In addition, you can reply to a message sent by another Voice Mail subscriber by pressing a single key. Voice Messaging also allows you to send a copy of a message to other Voice Mail subscribers.

### *Group Messaging*

Group messaging is a feature available to subscribers with Voice Messaging that allows you to record a single message and send it to a group of people.

### ***Eligible Subscribers***

Voice Mail, Call Forwarding Features and Message Waiting Tone are available to subscribers who have touchtone service and are served by a central office switch that supports these services. The CNS Features Availability tab toward the end of this guide provides an example list, by prefix, of the features available.

Eligible Subscribers will have an area code and prefix (NPA/NXX) found in the monthly NPA/NXX listings. The current listing is available on the *Passage* Web site.

### *Restrictions*

Voice Mail is incompatible with certain telephone services. It is your responsibility to confirm that potential subscribers are eligible for Voice Mail service. Subscribers are not eligible for Voice Mail service if they have any of the following services:

Band C Toll with CLEC ZPIC and/or LPIC code	In order to guarantee Voice Mail service, all Band C or TOLL call forwarding to the Voice Mail platforms must be done using a SBC ZPIC. This type of call forwarding using another ZPIC will be routed outside of the SBC SS7 network.
Dedicated 800 Service	Dedicated 800 service only allows for incoming 800 calls; it does not allow outgoing calls. Dedicated 800 is incompatible with Voice Mail's Call Forward and Busy Line Transfer features.
Existing Direct Inward Dialing (DID) Numbers	DID is an arrangement which uses specific trunks and central office translations to guide incoming dial calls to a specific number. Note

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	that Integrated Voice Mail cannot be assigned to an <i>existing</i> DID number because the network recognizes that DID number and guides it to a specific trunk. Subscribers must use our assigned DID numbers because they are guided to specific trunks that are dedicated facilities of our DID Voice Mail system.
House Arrest	Under House Arrest, an alternative to penal incarceration, individuals are incarcerated in the home. As a result, they cannot have Voice Mail because special monitoring devices require immediate telephone response when authorities call.
LifeLine Service	LifeLine Service is a government subsidized telephone assistance program for special needs groups (e.g., public aid) that provides only basic telephone service. Enhanced services cannot be added since basic service is provided as a subsidy. <i>Note: The LifeLine Service is different from the LifeLine product, a non-SBC emergency notification device. Voice Mail and the LifeLine product can be used together.</i>
Party Line Service	Party Line Service indicates that two residences share a single telephone number. Voice Mail cannot differentiate between two single-line subscribers.
PBX Trunks	The major component of the PBX trunk is a DID number. Voice Mail cannot be assigned to an <i>existing</i> PBX number because the network recognizes the existing DID number and guides it to a specific trunk. Subscribers must use our assigned DID numbers because they are guided to trunks that are dedicated facilities of our Voice Mail system.
Remote Call Forwarding	Remote Call Forwarding redirects calls to another number. Because calls are already forwarded, they cannot be forwarded to Voice Mail.
Universal Emergency Service-911	For ambulance, police and fire departments that have incoming 911 trunks. For obvious reasons, Voice Mail cannot be assigned to these lines.



## **Section 6 - CNS Features**

Voice Mail offers fully integrated call answering services with the subscriber's telephone service. The most common telephone CNS features used with Voice Mail are called Complementary Network Services and are described below. CNS features are also referred to as line features.

### ***Call Forwarding***

Voice Mail subscribers must be advised that a telephone line call forwarding arrangement is necessary for automatic forwarding to their voice mailbox. Monthly NPA/NXX listings provide a list of Call Forwarding features available for each prefix, and are available on the *Passage Website*. (See *CNS Features Availability* tab.)

The subscriber may select any combination or all of the forwarding features available. Most subscribers will use Alternate Answer and/or Busy Line Transfer for forwarding their calls.

*Note: The subscriber's call forwarding number must be set to the telephone number of the Voice Mail access number for the subscriber's area.*

### ***Alternate Answer***

Alternate Answer, also known as CFDA (Call Forward Don't Answer) for Centrex, is required for Voice Mail service. If the subscriber does not pick up the phone within the predetermined ring cycle, Alternate Answer forwards the call to the subscriber's voice mailbox.

### ***Busy Line Transfer***

Busy Line Transfer, also known as CFB (Call Forward Busy) for Centrex, is a useful feature for Voice Mail Service. With this arrangement, all of the subscriber's incoming calls will be forwarded to Voice Mail when the subscriber's line is busy.

### ***Call Forwarding Variable***

This arrangement allows the subscriber to have their calls "follow" them by transferring their incoming calls to another telephone number. This arrangement is

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not recommended with Voice Mail because it is manual. The subscriber has to program in the Voice Mail telephone number every time they want calls forwarded to Voice Mail and deactivate it when they want to receive calls.

*Note: Remember, all calls are forwarded with this call forwarding arrangement, not just the calls if the line is busy or not answered.*

You can have both Busy Line Transfer/Alternate Answer and Call Forwarding Variable on the same line. If Call Forwarding All Calls is activated it will override the Busy Line Transfer/ Alternate Answer. If Call Forwarding All Calls is not activated, the calls will automatically be forwarded to Voice Mail if the line is busy or does not answer.

**Ring Cycle**

Subscribers have the option of determining the ring length (number of rings) before calls are forwarded with Alternate Answer. Three rings is preferred by most subscribers. It may be necessary to explain to the subscriber that a setting of less than three rings usually does not allow enough time to answer the phone before it is forwarded to Voice Mail.

Ring cycle does not equate to rings; it refers to cycle timing in the Central Office (CO). The calling (originating) and called (terminating) parties do not necessarily hear the same number of actual rings. The caller may hear up to two additional rings after the CO forwards the call to Voice Mail.

**Ring Cycle Originating End Hears Terminating End Hears Ring Length**

Ring Cycle	Originating End Hears	Terminating End Hears	Ring Length
1*	2 - 3 rings	1 – 2 rings	6 - 12 seconds
2	3 – 4	2 – 3	12 -18
3	4 – 5	3 – 4	18 - 24
4	5 – 6	4 – 5	24 - 30
5	5 – 7	5 – 6	30 - 36
6	7 – 8	6 – 7	36 - 42
7	8 – 9	7 – 8	42 - 48
8	9 – 10	8 – 9	48 - 54
9	10 – 11	9 – 10	54 - 60


\*DMS 100 switch types cannot have RCYC 1.

*Note: Advise subscribers that they may hear up to one more ring than they specify. Also, advise subscribers that the person calling may hear one or two more rings than the number specified.*

## Message Waiting Indicator

Message Waiting Indicator (MWI) is a subscriber line feature which provides notification that a message is in the voice mailbox. It is sometimes referred to as Special or Interrupted Dial Tone.

The MWI is automatically activated on the subscriber's line when a message is left in the mailbox and automatically deactivated when all the messages are retrieved. (*Retrieved* refers to listening to messages and either saving or deleting them. Message Waiting Indicator will not deactivate if messages are skipped.) The MWI feature is activated only when two conditions are met:

1. Translations Database 

Main Station	AA	CFBL	MWI	RC	CFN
3122221234	Y	Y	Y	3	13123953075

2. Voice Mail Platform  On the Voice Mail Platform, the Class of Service for the mailbox must possess MWI feature capability.

1. MWI must be programmed in the translations database in the Central Office Switch for the subscriber's telephone line.
2. On the Voice Mail Platform, the mailbox must be created with a Class of Service that possesses the MWI feature.

## Measured Rate Local Service or Message Service

Subscribers with Measured Rate Local Service and Voice Mail may find additional message unit charges on their bills. Message unit charges accrue when calls are forwarded to Voice Mail and subscribers call the voice mailbox to listen to their messages.

## Multi-Line Hunt Groups (MLHG)

Multi-line hunt groups are set up in a Central Office to accommodate businesses or residences with more than one telephone and a large number of calls. Hunt groups work in a sequence where incoming calls "hunt" through the telephone numbers until being connected with one not in use.

The MLHG can be set up a number of ways depending on how an end-user decides to use the group. In many cases, incoming calls enter through a main office/residence number. If that number is busy, the line features for that number can be set to hunt

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to the next number within the office. If that number is busy, the incoming call will "hunt" to the next number, and so on.

#### *Call Forwarding to Voice Mail for Hunt Groups*

Call forwarding on hunt groups should be set up in the following manner: First, all hunting configurations must be removed. For example, circular hunting will not enable calls to be forwarded out of the hunt group and, therefore, this feature must be removed. All telephone numbers should have Call Forward Alternate Answer to the MessageSource® Voice Mail platform. *The last number in the hunt group should have both Call Forward Alternate Answer and Call Forward Busy.* This should be the only telephone number with Call Forward Busy.

#### *How a Hunt Group Works with MessageSource® Voice Mail*

If a CLEC works with a subscriber who utilizes a hunting scenario, it is very useful to set up a Hunting Class of Service. Hunting Classes of Service make it easy for subscribers to utilize a hunt group (often with many telephone numbers) with Voice Mail. Hunting Classes of Service ensure that all incoming messages are stored in one, easy-to-reach mailbox as opposed to many stand-alone voice mailboxes.

A CLEC would set up a voice mailbox for the lead hunt number, and each successive hunt number would have a hunting class of service mailbox. The sole purpose of a hunting class of service mailbox is to forward incoming calls back to one main mailbox.

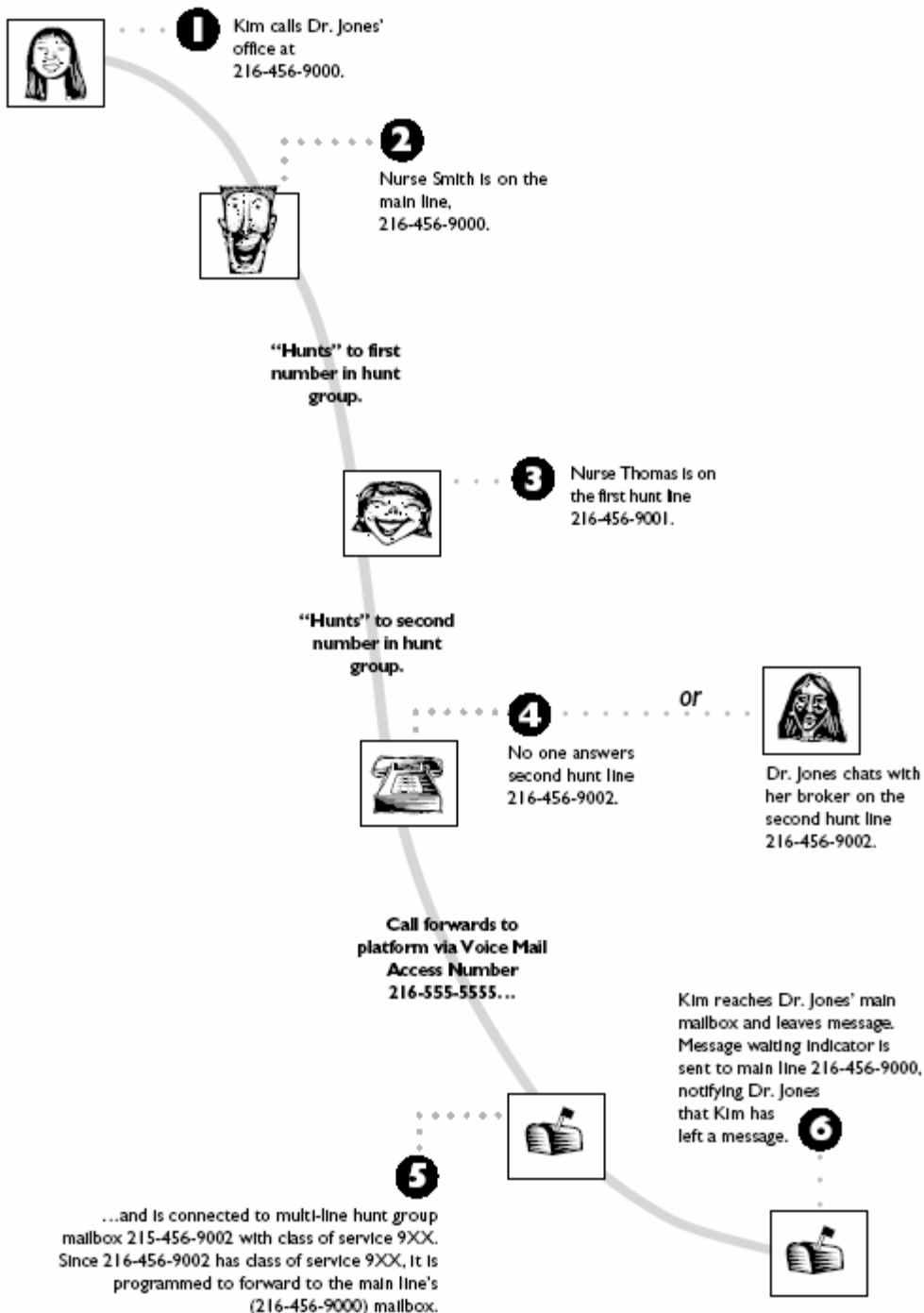
An example of this type of scenario would be an office with a three line hunt group:

312-222-1000, 312-222-1001, and 312-222-1002. Any callers sent to the MessageSource® Voice Mail platform via 312-222-1001 or -1002 on a busy or alternate answer call forward will first reach the respective hunting mailbox. Upon reaching that mailbox, however, the caller will be immediately sent to the main mailbox, 312-222-1000. All of this happens in less than a second.

Messages will, therefore, be left in one main mailbox instead of three separate mailboxes, saving the subscriber time and effort. When the subscriber checks on his or her messages, he or she can use any of the hunt numbers to call the access number. Similar to the caller forwarded to the main mailbox, the subscriber will be sent there as well, after which he or she will enter the pass-code.



# How Multi-Line Hunt Group Calls Reach a voice mailbox



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## **Questions and Answers**

*Q: Does the mailbox need to be configured to be able to provide MWI?*

A: Yes. The mailbox's class of service (COS) must be configured with the MWI feature. In addition, the line must be programmed to provide MWI.

*Q: Will Voice Mail work with a hunt group?*

A: Yes. Voice Mail will work in a hunt group if it the CNS features and the mailboxes are provisioned correctly.

*Q: Why won't Voice Mail work when the subscriber uses the Call Forward Variable feature?*

A: Call Forwarding Variable allows the subscriber to temporarily forward their calls to another telephone number. If the subscriber chooses to use this feature, their calls will forward to the telephone number that they designate instead of forwarding to the Voice Mail platform where a message can be recorded.

*Q: What is the recommended number of rings in a ring cycle?*

A: This question depends on the lifestyle circumstances of the subscriber. If the subscriber requires more time to get to their phone, increase the ring cycle to allow ample time for them to answer the call. If the subscriber is positioned at their phone throughout the day and can answer the call immediately, as in the case of an office administrator for example, the ring cycle can be set at a lower number. In any case, asking the subscriber their preference will enable you to satisfy their needs.



## Section 7 - Optional Features

In addition to the basic features provided with Voice Mail, several optional features are available. The additional features are described in this section.

### ***Pager Notification***

#### *Feature Description*

The Pager Notification feature will page you when a message is deposited in your mailbox.

#### *Restrictions*

- Local or 800 paging only.

#### *Digit Delay Time*

Most problems in creating a mailbox with a pager are related to the pager out-dial answering method. The pager out-dial answering method is what the caller hears when they dial a pager number. Standard pager technology utilizes a three-beep answering method which prompts callers to enter a return telephone number. More sophisticated pagers enable the subscriber to record a greeting; the caller can respond either by leaving a message or entering a callback telephone number.

The CLEC must provide the MSTAC with the *digit delay time* when provisioning a new pager or adding or changing a pager to an existing mailbox. Digit delay time is the number of seconds elapsed from the seizing of the dial tone to the end of the audio tone, time inclusive, as shown below.

The subscriber must notify the CLEC if they change their greeting so that the CLEC can determine the digit delay time. The CLEC then provides this information to the MSTAC for appropriate pager notification assignment.

Seize Dial Tone	Dial Pager Number	Pager Terminal Answers Call	Greeting Plays (if applicable)	Auto Tone(s) Played
<i>t</i> second	<i>l</i> second	<i>a</i> seconds	<i>b</i> seconds	<i>c</i> seconds
Digit Delay Time = Total $a+b+c+2$ seconds				

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### *Pager Answering Methods Supported by the MSTAC*

The MSTAC supports only certain types of pager answering methods, described below.

#### *Standard Three Beeps*

Callers hear a series of three short beeps then enter their callback number. Digit delay time = 3 seconds.

#### *Standard Long Beep*

Callers hear a single, long beep and then enter their callback number. Digit delay time = 4 seconds.

#### *IVR Introduction*

Callers hear the message, "You have reached [Name of Pager Service]. At the tones, please enter your callback number followed by the pound key," followed by three short beeps. Digit delay time varies.

#### *The Custom Greeting*

Callers hear the pager subscriber's personal greeting. When the greeting ends, the caller can immediately enter their callback number. No additional keys need be pressed to initiate the pager beep. Digit delay time varies.

#### *The Custom Greeting/Message Alert*

After hearing the subscriber's personal greeting, callers can record a voice message or enter a callback number without pressing additional keys. Digit delay time varies.

### *Pager Answering Methods Not Supported by the MSTAC*

#### *Paging Party Pays*

Paging Party Pays is a pager service that requires the person initiating the page to pay for the call. Without Paging Party Pays, the pager owner pays for the page.

#### *Interactive Pagers*

Callers interact with the paging system by selecting an option from a menu (press [1] to page, press [2] to be connected to an assistant, etc.).

### *Allowable Subscriber Pager Changes*

The only pager changes subscribers can make while logged into the mailbox is to set the pager number (the pager's seven-digit telephone number). The subscriber *cannot* change the pager type from within the mailbox.

A pager has two functional components, the pager [notification] number and the pager type. The pager number, as explained above, is the telephone number a caller would dial to reach the pager. The pager type includes:

- The pager model, e.g., digital, toll-free (800/888) etc.
- The pager answering method. The answering method is what the caller hears when they dial the pager number.

The subscriber can only change the pager number. Subscribers cannot change the pager type (model or answering method) from within the mailbox.

For example:

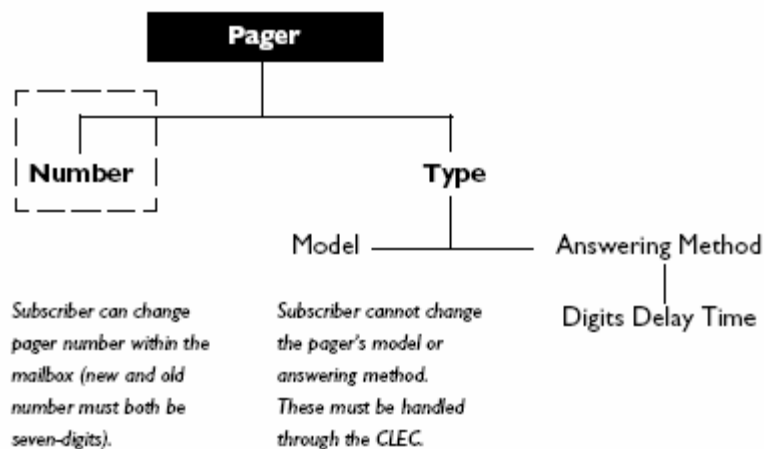
Mary Clark's digital pager number is 312-248-5199. Her pager's answering method is the Standard Three Beeps. Mary finds that many of her customers do not know what to do when they call a pager. She wants to switch her pager answering method from the Standard Three Beeps to the Custom Greeting so that she can record a greeting, in her own voice. She wants her callers to hear, "Hi this is Mary Clark and you've reached my pager. When you hear the beep, using your touchtone phone, enter the telephone number you want me to call you back on. Then press the pound key. You may then hang up and I will call you back."

Mary's pager answering method has changed and because the answering method is a component of the pager type, Mary cannot make this change from within the mailbox. Mary would need to call her CLEC to request this change.

However, if only Mary's pager telephone number changes, for instance from 312-248-5199 to 312-248-9872, Mary could set the pager notification number herself from within the mailbox.

In summary, Mary can only change her pager notification number. Mary would need to call her CLEC if:

- The pager model changes from one kind to another, i.e. from tone to digital and vice versa, digital to 800/888 and vice versa.
- The answering method changes.
- Mary changes the duration of her voice greeting on a Custom Greeting answering method.



### ***Procedures***

If the pager type remains the same, the subscriber can change the pager number and turn pager notification on and off. Pager type is not determined by brand, but by the type of greeting callers hear prior to entering their call back number. It is important that any change in the pager type is coordinated with the MSTAC to ensure compatibility.

### ***Secondary mailboxes***

#### *Feature Description*

If you have purchased a package that includes the sub-mailbox feature, you can assign personal sub-mailboxes for members of your household or business. Navigation through a sub-mailbox's menu structure is identical to a regular mailbox except that the Pager Notification menu and create/delete sub-mailbox menus are not available for sub-mailboxes.

The first person to use Voice Mail in the household or business is assigned the main mailbox. The main mailbox greeting directs callers to leave a message in the main mailbox or the desired sub-mailbox. Callers press the appropriate sub-mailbox key to access a particular sub-mailbox. Here is a typical main mailbox greeting:

*You have reached the Clark family.  
To leave a message for Martha [sub-mailbox 1], press one.  
To leave a message for Michael [sub-mailbox 2], press two.  
To leave a message for Mr. and Mrs. Clark [the main mailbox], press 9 or leave a message after the tone.*

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If callers press a sub-mailbox key, they will hear the greeting for that sub-mailbox. If they press [9] or [#], or if they press no key (as in the case of callers who do not have touchtone phones), they may leave a message in the main mailbox.

Only the main mailbox user can create or delete sub-mailboxes. In creating a sub-mailbox, the main mailbox user records a temporary name for the sub-mailbox and selects a temporary pass-code.

Once a sub-mailbox is created, the sub-mailbox user must call and set up the sub-mailbox using the temporary pass-code assigned by the main mailbox user. The setup procedure for sub-mailboxes and the main mailbox is the same. Each individual sub-mailbox user must record a name announcement and a greeting, as well as establish a private pass-code.

## **Questions and Answers**

### *Sub-mailboxes*

*Q If my call is forwarded to a voice mailbox via Call Forwarding Don't Answer or Busy, can I leave a message for more than one sub-mailbox?*

A No. The caller would hang up at the end of the message for one sub-mailbox and call back to leave a message for another sub-mailbox.

*Q Can I pick up all messages on all sub-mailboxes on the same call?*

A Yes. If you know the pass-code for each sub-mailbox, press [7] at the main Menu and reenter the ten-digit mailbox number and the appropriate sub-mailbox pass-code.

*Q Can the main mailbox be shared by everyone in my household or business?*

A Yes. You have the choice of using the main mailbox as a personal mailbox (only you would have the pass-code) or a communal mailbox (the pass-code would be shared by several people). In either case, it is important that someone regularly check the main mailbox for messages. Messages from callers who do not have touchtone phones or do not choose a sub-mailbox (if available) go to the main mailbox.

*Q How does total message count work with sub-mailboxes?*

A The message limit applies to the *total* number of messages in the main mailbox and all sub-mailboxes.

*Q How does Pager Notification work with sub-mailboxes?*

A The Pager Notification feature is not available for sub-mailboxes. When callers leave a message in a sub-mailbox, they can mark the message urgent, but Voice Mail will not signal a pager.

*Q What happens if I forget my sub-mailbox pass-code?*

A Your sub-mailbox will have to be deleted and recreated through the main mailbox. You will receive a new temporary pass-code. All messages in the

sub-mailbox will be lost and you will have to go through the setup procedure again.

*Q Is the sub-mailbox Main Menu different from the main mailbox's Main Menu?*  
A No. The Main Menu structures are the same except that the sub-mailboxes Options menu does not possess the Create or Delete Sub-mailboxes Menu. Only the main mailbox can create or delete sub-mailboxes. Additionally, sub-mailboxes do not out-dial to a pager. Therefore, the Message Notification menu will not be available.

*Q If I'm positioned at a sub-mailbox's Main Menu, how do I return to the main mailbox's Main Menu?*

A Press [7] [\*] followed by the seven-digit mailbox number and the pass-code of the main mailbox.

*Q How does the Message Waiting Indicator work with secondary mailboxes?*

A You will continue to hear the Message Waiting indicator on your phone as long as there are one or more new messages in the main mailbox or any of the secondary mailboxes.

*Q If I am logged into my mailbox, can I record the same message to more than one secondary mailbox?*

A Yes. You can use the voice messaging SEND feature to send the same message to numerous secondary mailboxes.

### *Pager Notification*

*Q How does Pager Notification work?*

A When an urgent message is left, the system activates Pager Notification and generates a call to the pager number.

*Q How does Pager Notification work with sub-mailboxes?*

A The Pager Notification feature is not available for sub-mailboxes. When callers leave a message in a sub-mailbox, they can mark the message urgent, but Voice Mail will not generate a call to a pager. For subscribers with sub-mailboxes who want pager notification, they can instruct the caller in the main mailbox greeting to stay on the line, wait for the tone for the main mailbox, and leave an urgent message.

*Q How many times will Voice Mail attempt to signal my pager?*

A The service will attempt to signal the pager immediately after the message is received. If you do not access your mailbox within ten minutes, Voice Mail will make three additional attempts within fifteen-minute intervals to signal your pager.

*Q What should I do after my pager is signaled?*

A Call the Voice Mail Access Number or your DID number and listen to your message(s).

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## Section 8 - Ordering Services

### *Overview*

Voice Mail is a combination of mailbox services and telephone line features. It is necessary to order both the mailbox services and the telephone CNS (line) features for a fully functioning Voice Mail system. You will be responsible for sending orders to SBC for both the mailbox service and the CNS services features.

### *Mailbox Order Information*

Following is a description of the information required to order mailbox services.

#### *Class of Service*

A set of mailbox options which are used to tailor mailbox features to different subscriber needs. Classes of Service are determined by the CLEC.

#### *Mailbox Status*

Used to disable mailbox access by subscribers and callers. The Voice Mail platform values are:

- (e)nabled and (d)isabled.

New mailboxes will default to *enabled* status unless explicitly set to *disabled*. The status on existing mailboxes can be toggled via change orders.

#### *Message Waiting Indication*

Used to inform SBC that a particular subscriber is equipped with a message waiting light or Special Dial Tone.

#### *Name on Message*

Used to specify whether or not a subscriber is the recipient of a message from another subscriber on the Voice Mail system. Names can only be announced if the

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message was sent from the mailbox of another subscriber on the same system. The default setting is *auto*.

If the setting is changed to *No*, the subscriber does not receive the name announcement. If the setting is changed to *Yes*, the subscriber can request the name by entering [6] [6]; *auto* causes the subscriber to always get the prerecorded message with the name attached.

### *Pager Status*

Indicates whether or not the subscriber has activated pager notification. If the mailbox was created with a pager at the time of the new order, this will default to *on* for new orders; it can be switched to *off* if desired.

### *Pager Number*

This is the subscriber's pager number.

### *Pager Display String*

The Voice Mail system displays the 10-digit DID mailbox number or the Voice Mail access number in the subscriber's pager display area.

### *Pager Type*

Designates the pager as voice, tone or digital.

## ***Subscriber Pass-codes***

New mailboxes are not created with personalized pass-codes. The subscriber should be urged to set up the mailbox immediately. Pass-codes can be six to ten digits in length.

In the event that the subscriber forgets the pass-code, the CLEC may request a new pass-code. The CLEC may change the pass-code by sending a change request through the Passage Web site. *Note: The MSTAC cannot change sub-mailbox pass-codes.*

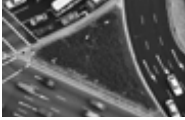
### *Class of Service Codes*

Class of Service (COS) Codes are used to bundle specific mailbox features into one package or type of mailbox. Service classes are defined by the vendor and a SBC Marketing Representative. Every mailbox on the system must belong to one of these

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service classes. Please refer to your contractual agreements to determine the costs of Class of Service features and feature additions.

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## Section 9 - Customer Service

### *Overview*

SBC is committed to providing you with the highest possible quality service. We strive each day to exceed your expectations by providing you with streamlined, efficient operations and individualized provider service. Our Team goal is that you find SBC the only real choice for your telecommunication needs.

To accomplish this goal, this chapter outlines the differences between Tier 1 and Tier 2 support. It also provides you direction in which SBC Tier 2 Assistance Center to contact for your particular concerns or issues.

### *CLEC Support Overview*

You are responsible for providing Tier 1 support to your subscribers. Tier 1 support encompasses many types of service:

- Facts relative to the value and flexibility of Voice Mail service
- Sign-up for and provisioning of the service
- Instructions for the use of Voice Mail service
- Clarity in the operation of a voice mailbox, including the setup and use of all

### MessageSource® features

- Answers to billing problems and questions
- Resolution to problems with the service
- Resolution to problems concerning Local Exchange Carriers (LECs) other than SBC

### Provider Clarification

For years subscribers of basic telephone service have been calling their local SBC Repair Center to report a problem with their phone service. With new features being offered to basic service, such as Voice Mail, and numerous providers offering these enhanced features, it is important your subscribers understand that *you* are their Service Provider. Your subscribers need to call you, not the SBC Repair Center, with all problems, questions, and issues related to Voice Mail. Again, it is very important that you establish your identity early on as the subscriber's local service and Voice Mail provider.

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## *SBC Support Overview*

SBC support is handled two ways, account management and assistance centers. Account Management The account management staff consists of an account manager, service manager, and implementation manager. These managers handle planning, implementation and enhancements of the Voice Mail service.

### Assistance Centers

The assistance centers offer advanced support of the Voice Mail service. Please note that CLECs are responsible for troubleshooting Voice Mail problems with the subscriber before contacting SBC assistance centers.

SBC Tier 2 Support Provides:

- Processing of CLEC electronically submitted orders for the procurement, cancellation, or modifications of mailboxes
- Resolution to mailbox, CNS feature, or system troubles
- Notification and implementation of new system enhancements and services

### Account Management

#### *Account Manager*

Your account manager's initial responsibility is to contractually satisfy both you and SBC. On an ongoing basis, your Account Manager works with you to expand your business and, with your service manager, to provide enhanced features and price for new services.

#### *Service Manager*

Your service manager is your single point of contact for all network related *questions* not answered in this reference guide Your service manager works closely with your account manager and other SBC personnel in providing functionality and pricing for enhanced network services.

#### *Implementation Manager*

The implementation manager works closely with all departments at SBC to support the account and service managers in implementing your services.

### *Assistance Centers*

SBC Tier 2 Technical Support is provided by three distinct yet interrelated assistance centers:

#### MessageSource® Technical Assistance Center (MSTAC)

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The MSTAC establishes your COS and other service necessities relative *to mailboxes*. The MSTAC also maintains the Voice Mail system and its operating software. Therefore, it is your single point of contact for advanced mailbox and system problems.

#### LSC Local Service Center

The LSC provides procurement, modification, and cancellation of CNS features.

#### LOC Local Operation Center

The LOC is the SBC network trouble reporting center. The LOC works with numerous departments within SBC to provide resolution to problems occurring within the SBC network.

#### *Relationship of MSTAC, LSC and LOC*

The MSTAC, LSC and LOC work closely with one another to service your needs and resolve your problems.

The MSTAC is primarily responsible for mailbox maintenance services. The MSTAC also resolves ordering troubles. The LSC handles the establishment and maintenance of CNS features such as Alternate Answer, Busy Line Transfer, Ring Cycle, and Message Waiting Indicator. The LOC manages the resolution of network problems, (i.e. problems associated with the transport of calls over the SBC network).

### ***MSTAC Services***

#### *General Overview*

The MSTAC is your single point of contact for mailbox and *mailbox-associated* services, interruptions of service and service outages.

#### *The MSTAC Team*

The MSTAC is structured and works as a team consisting of:

##### MSTAC Analysts

The MSTAC analysts provide you with daily support. These analysts will interact with you when you call the MSTAC.

##### Platform Engineers

These engineers provide proactive maintenance of the Voice Mail system and the system's operating software. They also handle troubleshooting assigned by the MSTAC analysts.

### *Making Requests*

Prior to making a request for Voice Mail services, CLECs should first consult this guide for instructions.

### Planned and Unplanned System Down-Time

The Voice Mail system, like any other system, requires maintenance. We track the system's usage daily and are able to pinpoint the time and day when the system is minimally accessed. It is during this window that we will conduct maintenance. We will notify you of planned maintenance five business days in advance. The MSTAC will broadcast a message notifying subscribers that the system will be unavailable during this time.

The broadcast message will be sent to all subscribers on the system. There may be occasions when we will need to conduct repairs unexpectedly. We regret the need to conduct unplanned repairs during times other than the scheduled maintenance window. We will notify you immediately of such a necessity during both business and non-business hours.

In the event of a system failure or outage, a MSTAC analyst will call you immediately to notify you of the outage and will keep you informed throughout the outage. System failures and/or outages will be handled with the highest priority.





## Section 10 – Troubleshooting Overview

The CLEC manages all direct contact with the subscriber (Tier 1 Support). SBC provides support to the CLEC (Tier 2 Support). It is necessary that you accurately determine the subscriber's need or problem and refer the problem to the appropriate center for resolution. The following defines the assistance center you need to contact and the facts you need to provide so that we may fulfill your request in a timely, efficient manner.

### ***Who to Contact for What***

Most subscriber problems are a matter of explaining how to use the mailbox. The question and answers in each section and the *Troubleshooting Common Voice Mail Problems* section will help you in resolving mailbox questions and subscriber problems immediately.

Following is an outline of who to call for what. Your ability to determine the need or problem and identify the appropriate assistance center will greatly impact the resolution cycle time. The three assistance centers are:

- MSTAC - responsible for platform problems and preliminary in-house Voice Mail training issues.
- LSC - responsible for provisioning line features.
- LOC - responsible for network related problems for established voice mailboxes.

### ***When to Call the MSTAC***

You will need to confirm you provided basic troubleshooting to the subscriber prior to calling the MSTAC. You must confirm that the subscriber is operating the mailbox correctly. Determine whether the MessageSource® subscriber:

- Is using the correct integrated or DID mailbox.
- Is using an existing mailbox.
- Is experiencing difficulty calling from the telephone number the service is setup on or from a remote location.
- Is calling the correct Voice Mail access number.
- Is familiar with which keys to press to properly operate their mailbox.
- Has record of the exact date and time the troubles occurred; troubles are often determined by the time and date of occurrence.

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- Has not purchased any additional line features that may interfere with Voice Mail, e.g., caller ID blocking, or has not added additional lines, hunt numbers.

After you have exhausted all Tier 1 troubleshooting efforts, contact the MSTAC. We may ask you other questions related to Tier 1 Support. *Please be patient while we determine the possible cause of the trouble.* Since we do not interact directly with the subscriber, we may have to ask a series of detailed questions. For prompt resolution, it is necessary for us to fully understand the trouble.

Often we will be able to resolve your request while on the phone. If we determine that this is an advanced trouble, we will provide you with a trouble report, also called a TR#. When you call the MSTAC for the status of a trouble or request that we are resolving, please refer to the TR# so that we may quickly locate your request. Multiple requests for the same trouble significantly increase resolution time.

Following are the most frequent service requests:

- Mailbox (or pre-activated mailbox) provisioning, modification (e.g., pass-codes) or cancellation via the Passage Web site.
- Request(s) for additional mailbox associated services (i.e. additional DID or Pre-activated mailboxes, new COS, etc.).
- Mailbox does not exist when subscriber calls the Voice Mail access number to initialize their mailbox for the first time.
- A mailbox that does not play the subscriber's greeting for callers.
- All pager out-dial troubles.
- Voice Mail system clock is fast or slow.

One of the main troubles that occurs in the setup of a mailbox is related to the Pager Out-dial option. The pager answering method is what the caller hears when they dial a pager number. Often, pager technology utilizes a three-beep answering method which prompts callers to enter a return telephone number. Newer pagers enable the subscriber to record a personal greeting. The caller can respond either by leaving a message or entering a callback telephone number.

When troubleshooting pager out-dial troubles, first confirm:

- The subscriber has an operable pager and that the pager number properly activates the pager when dialed directly. To determine this, call the pager directly and leave your callback number.
- The pager number has been properly input into the voice mailbox.
- The type of pager and the pager answering method (single tone only, multiple tone, greeting then single tone, greeting then multiple tone, etc.). You must provide the answering method of the pager for pager out-dial to work properly.
- That the subscriber is referring to the main mailbox only. Sub-mailboxes will *not* signal a pager.

After you have determined the problem is not the subscriber's improper use of the mailbox, call the MTAC and provide the MTAC analyst with the following specific information relative to the problem:

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- The subscriber's name.
- The correct integrated mailbox number, or the DID mailbox number, and home/business telephone number.
- Complete pager number with digits delay time.
- If applicable, the Voice Mail access number along with the numbers within the hunt group.
- A concise description of the problem and the steps you took to correct the problem.
- Accurate date and time the problem occurred.

*When to Call the LSC & LOC*

Refer to the CLEC Web site (<http://sbc.clec.com>) for contact and service information.

***Troubleshooting Common Voice Mail Troubles***

*Subscriber Operations Questions*

Trouble	Reason	Resolution
Subscriber hears generic greeting when calling the Voice Mail access number.	Mailbox does not exist.	Provision mailbox.
	Subscriber calling access number from TN not associated with Voice Mail.	Instruct subscriber on accessing mailbox remotely.
	Caller ID Block prevents the platform from determining the source of the call (blocks Call History Information).	Submit order to remove the Caller ID block. Refer to the CLEC Web site.
	SMDI link may be down.	Call the MSTAC for resolution.
	Subscriber added additional hunt Numbers.	Provision additional hunting mailboxes.
	Subscriber's 2PIC is not SS7 compatible and is being used to make a Band C or Toll call to the access number.	Submit order to change 2PIC to SBC code or a SS7 compatible code.
Subscriber is unable to access their mailbox via the Voice Mail access number.	Subscriber calling the Voice Mail access number from TN is not associated with Voice Mail.	Instruct subscriber on accessing mailbox remotely.
	Subscriber is dialing the incorrect Voice Mail access number.	Instruct subscriber to dial the correct Voice Mail access number.

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	Mailbox was never ordered.	Order mailbox.
	Provisioning order has the incorrect mailbox number.	Send an Add Mailbox order, followed by a Delete Mailbox order.
Subscriber forgot sub-mailbox pass-code.		The sub-mailbox must be deleted and recreated.
Subscriber is having a problem setting up sub-mailbox.	Subscriber is setting up the main mailbox, not the sub-mailbox.	See Section 9, <i>Sub-mailboxes</i>
	Subscriber is not positioned in the Mailbox Options menu.	Subscriber must press [9] for the Mailbox Options menu.
	Subscriber is not positioned in the main mailbox.	See Section 8.
	Subscriber's COS does not have sub-mailbox feature.	Make Class of Service changes through provisioning.
Subscriber is unable to retrieve messages from sub-mailbox.	Subscriber is not using the correct sub-mailbox password.	If the subscriber cannot remember the pass-code, the sub-mailbox must be deleted and recreated. See Section 9.
	The COS assigned to the mailbox is not set as a collective mailbox; COS does not allow for Sub-mailbox.	Confirm mailbox is assigned a COS which is programmed as "collective" for sub-mailboxes.
Saved messages are gone.	Messages were past the saving date (retention time) and were automatically deleted by the platform.	There is no resolution. Messages older than the saved or new retention value are deleted.
Subscriber cannot initialize sub-mailbox.	Subscriber entering incorrect pass-code.	Create and delete sub-mailbox from main mailbox. See Section 9, <i>Sub-mailboxes</i> .
	Sub-mailbox was never set up from the main mailbox.	See Section 9, <i>Sub-mailboxes</i> .
Subscriber's pass-code is not enabling access to mailbox.	The subscriber forgot their pass-code.	Change the pass-code and notify subscriber.
Subscriber notices increase in usage.	Subscriber has measured or message use.	Reinforce the total value of Voice Mail (no missed calls, etc.).

### *Provisioning Questions*

The generic greeting states the mailbox is not in service.	The mailbox was never created.	Send Add Mailbox order.
Requested Pager out-dial is	Pager out-dial will not	Confirm pager is not

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not working properly.	function on a sub-mailbox or a MLHG mailbox, or Digit Delay time is incorrect.	working. Test the pager by calling it directly. Determine pager type (e.g., digital). Record the number of elapsed seconds prior to the beep for entering the callback number and submit a Change order.
	Mailbox order has the incorrect COS.	Send an Add Mailbox order.
Subscriber cannot set a pager notification number.	Subscriber is not positioned in the Mailbox Options menu.	Subscriber must press [9] for the Mailbox Options menu.
	Subscriber is attempting to set up a toll/long Distance/10-digit pager number.	See Section 9, <i>Pager Notification</i> .
Mailbox is not taking calls.	The CNS features were not ordered for the line.	Submit an order to have the CNS features added to the line.
	The mailbox does not exist.	Submit an Add Mailbox order.
MWI is not working.	The line was not programmed for MWI.	Verify CNS features on account.
Line features are not working.	The incorrect line features were ordered.	Verify configuration via CSR. Submit order to correct features.

*Caller Questions*

Subscriber's greeting volume is too low.	Subscriber is speaking too softly when recording greeting.	Suggest subscriber speak louder and/or use another telephone.
Callers hear generic greeting when calling the subscriber.	Subscriber's mailbox was deleted or never existed.	Check Mailbox Order History. Provision mailbox.
	Subscriber's mailbox is full.	Have subscriber listen to, then delete, messages.
	Subscriber added Additional hunt numbers.	Provision additional hunting mailboxes.
	Subscriber has additional features (e.g., Caller ID Blocking) preventing the platform from determining the source of the call.	Submit an order to have the blocking removed.
	Subscriber's 2PIC is being used to forward calls as Band C or toll to the Voice Mail access number.	Submit an order to change the 2PIC to a SBC code or have an alternate provider provide SS7 capability.



## Section 11 – Wholesale Mailbox Configurations

### *Standard Features*

The following provide definitions of available standard service features for residential and business wholesale mailboxes:

Feature	Description	Residential	Business
Greeting Length	The number of minutes permitted for the subscriber's greeting	Max 30 seconds	Max 45 seconds
Storage Capacity	The number of messages that can be stored in the mailbox	Maximum 20	Maximum 30
Message length	Number of minutes permitted for recording an incoming message	Maximum 2 minutes	Maximum 2 minutes
Message Retention	Number of days messages are stored; retention time starts from the time the message was recorded and not from the time it was listened to and saved.	14 days	14 days
Terminate Call (*Out)	After recording message and pressing the # key, "Re-entry" enables callers to review, re-record or cancel the message. "Immediate" setting terminates the call upon pressing the # key	Yes	Yes
Rewind/Forward	Enables the subscriber to use the rewind and fast forward feature while listening to messages	Yes	Yes
Send/Reply and Copy Message	Specifies whether or not a subscriber can reply to, send or copy (redirect) a message	Yes	Yes
Group Messaging (Broadcast lists)	Enables a subscriber to create a personal group list made up of other mailbox	5 groups of 20 entries	5 groups of 20 entries

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	numbers. The group list is used for sending messages to other subscribers on the system.		
Message Waiting Indicator	Provides special dial tone when new message is recorded in mailbox.	Yes	Yes
Date/Time Stamp	Announces the receive date and time of message.	Yes	Yes
Erase/Save/Replay	Allows subscriber to erase, save or replay messages.	Yes	Yes
Personalized Password	Allows subscriber to define mailbox password	Yes	Yes
Extended Absence Announcement	Announces to callers that subscriber is unavailable and does not allow callers to leave message	No	No
Send "Private" or "Confidential"	Allows subscriber to mark message private so that recipient of message cannot send a copy to another mailbox.	Yes	Yes

### ***Optional Features***

The following provides definitions of available optional service features for residential and business wholesale mailboxes:

Feature	Description	Residential	Business
Pager Notification	Signals subscriber's pager when messages are recorded in mailbox	Yes	Yes
Secondary Mailboxes	Additional partition enabling message storage for additional user(s) on a main mailbox	2 sub-mailboxes	2 sub-mailboxes
Multi-line Hunt Group (MLH) Per Line	For businesses with more than one telephone number, incoming calls "hunt" through the telephone numbers until being connected with a number not in use.	No	Yes

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## Section 12 - Glossary

### **Address**

A sequence of numbers that identifies the telephone or other customer-premises equipment to which a call is directed. The address is usually a 7- or 10-digit number, depending on whether the destination is inside or outside the numbering plan area.

### **Alternate Answer (AA)**

A translation (line) feature which directs the switching system to forward the call to a different network component, when the subscriber of the service does not answer.

### **Automatic Number Identification (ANI)**

The automatic identification of a calling station by a switching system. Frequently pronounced "Annie."

### **Busy Greeting**

Busy Greeting allows subscribers to record a separate greeting that lets callers know that the subscriber is at home but on the line. (See Section 8, *Setting Up Your Mailbox*.)

### **Call Answering**

Call Answering allows callers to leave a message for a subscriber when callers encounter a busy or no answer condition.

### **Caller**

Anyone who is trying to contact a subscriber by telephone.

### **Call Forward Busy Line (CFBL)**

A translation (line) feature which directs the switching system to forward the call to a different network component, when the subscriber of the service is on another call.

### **Call Forwarding**

Call Forwarding is a separate service provided by the Central Office switching equipment. Call Forwarding transfers calls to Voice Mail so that callers can use the Call Answering feature and leave a message for a subscriber.

### **Call Forward Number (CFN)**

A 10-digit number assigned to a Voice Mail subscriber, stored in the central office translations database, which is used to direct the switching system to forward the call to the Voice Mail platform when the subscriber's line is busy or doesn't answer. The translation features assigned to the line are Call Forward Busy Line (CFBL), alternate Answer (AA) and MWI.

### **Call History Information**

A packet of information pertaining to the calling number, the **(CHI)** called number and the call forwarded-to-number.

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**Call Waiting**

Call Waiting allows telephone subscribers to answer incoming calls when the phone is in use.

**Central Office (CO)**

Usually used to refer to a local switching system that connects lines to lines and lines to trunks. The term is sometimes used loosely to refer to a telephone company building in which a switching system is located and to include other equipment.

**Centrex**

A service for customers with many stations that permits station-to-station dialing, one listed directory number for the customer, Direct Inward Dialing (DID) to a particular station, and station identification on outgoing calls. The switching functions are performed in a central office.

**Circuit**

Frequently used interchangeably with Channel to designate a communications path between two or more points.

**Connection**

Generally, a 2-way voice band circuit completed between two points by means of one or more switching systems.

**Copy**

The Copy feature is only available to Voice Mail subscribers with the same Voice Mail system. The Copy feature allows a subscriber to send a copy of a message to other Voice Mail subscribers.

**Digital Channel**

A transmission channel that carries signals in digital form.

**Digital Signal**

A signal that has a limited number of discrete states prior to transmission.

**Digit Time Delay**

Digit delay time (for pagers) is the number of seconds elapsed from the seizing of the dial tone to the end of the audio tone, time inclusive.

**End Office**

A local switching office where loops are terminated for purposes of interconnection to each other and to trunks.

**Exchange Area**

Traditionally, an area within which there is a single uniform set of charges for telephone service. An exchange area may be served by a number of central offices. A call between any two points within an exchange area is a local call.

**Facility**

Any one of the elements of physical telephone plant that are needed to provide service.

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**FCC**

A board of commissioners, appointed by the president of the United States under the Communications Act of 1934, having the power to regulate interstate and foreign communications originating in the United States by wire and radio.

**Flat Rate**

A rate-setting principle for local service in which customers in a specific group or area are all charged the same rate for local calling regardless of the number of local calls they make or the length of the calls.

**Forward**

While listening to messages, subscribers can press [9] to advance in 5 second intervals.

**Future Delivery**

Voice Mail subscribers can mark messages for future delivery; messages can be scheduled for up to one year in the future. When Voice Mail users finish recording a message, they can mark it for future delivery by pressing [#] [9] [4].

**Generic Greeting**

A system-activated Voice Mail greeting, which callers can hear if a mailbox does not exist, the end-user has added new features or hunt numbers, or if there is a network-related SMDI outage.

**Greeting**

A subscriber's greeting is the recording heard by callers when they reach the subscriber's mailbox. (See also *Busy Greeting*.)

**Group Messaging**

Group Messaging allows the subscriber to simultaneously send a message to multiple mailboxes. (See Section 8, *Group Messaging*.)

**Help**

When subscribers are in their mailbox, they can press [0] to hear more information on the feature that they are currently using.

**Interconnection**

The direct electrical connection of other common carrier facilities to the telephone network.

**Interoffice Call**

A call between two switching systems.

**Intraoffice Call**

A call involving only one switching system.

**LOC**

The Local Operations Center is responsible for provisioning line features.

**Local Switching System**

A switching system that connects customer lines directly to other customer lines, or customer lines to trunks.

**Loop**

A channel between a customer's terminal and a central office. A loop may also be called a line.

**LSC**

The Local Service Center provides procurement of, modification to and cancellation of line features, also known as CNS features.

**Mailbox**

A mailbox is where the subscriber's messages are received and stored.

**Main Mailbox**

The first person to use Voice Mail in the household or business sets up the main mailbox. The main mailbox creates and deletes sub-mailboxes. The greeting of the main mailbox serves as the sub-mailbox menu, informing callers of which keys to press to leave a message in a particular sub-mailbox.

**Main Menu**

The Main Menu is the first selection of options subscribers hear when they access their mailbox. The Main Menu options are "To listen to your messages, press [1]. For reminders, press [3]. To change mailbox options, press [9]. To exit, press [\*] ."

**Main Station Number**

A telephone that is connected directly to the central office either by an individual or shared line. They do not include telephones that are connected manually or automatically connected to the central office through a PBX or extension telephones (telephones that have been added to an individual or shared line to extend the telephone service to other parts of the subscriber's home or business premises).

**Message Waiting Indicator**

A Message Waiting Indicator (MWI) is activated when there are new messages in a subscriber's mailbox. Subscribers hear the MWI when they pick up the receiver of their telephone. The MWI sounds somewhat like a series of short dial tones.

**MSTAC**

The MessageSource® Technical Assistance Center provides procurement of, modification to and cancellation of mailboxes. It also establishes your COS, DID numbers (if applicable) and other service needs relative to mailboxes. The MSTAC also maintains the Voice Mail system and its operating software—it is your single point of contact for individual mailbox problems, as well as system problems.

**Name Announcement**

The subscriber's name announcement is the recorded name of the mailbox user. It serves as a label for the mailbox. (See Section 8, *Setting Up Your Mailbox.*)

**New Messages**

Messages are considered "new" until subscribers save or erase them.

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**Noise**

An unwanted disturbance introduced in a communications circuit. It may partially or completely obscure the information content of a desired signal.

**Numbering Plan Area**

The familiar area code, defining a geographic division within **(NPA)** which telephone directory numbers are sub-grouped. In North America, a 3-digit code is assigned to denote each NPA. (See Section 2, *NPA/NXX Numbering Plan.*)

**Packet**

A group of bits that is switched as an integral unit. Typically, a packet contains data, destination and origination information, and control information, arranged in a particular format. (See also *Call History Information.*)

**Pager Notification**

Pager Notification signals the subscriber's pager when new messages arrive in their mailbox. (See Section 9, *Pager Notification.*)

**Passage**

Passage is a Web-based mailbox provisioning and information tool. Passage allows online query order status, order editing and submission, and the generation of online report requests.

**Pass-code**

The subscriber's six- to ten-digit pass-code allows Voice Mail to verify a user's identity. Only their pass-code will allow entry to their mailbox. (See Section 8, *Setting Up Your Mailbox.*)

**Plant**

All of the facilities (such as land, buildings, machinery, apparatus, instruments, and fixtures) needed to provide telecommunications services.

**Pre-activated Mailbox**

A Pre-activated mailbox is a working mailbox on the platform that does not have line features. It can be used by sales people and potential subscribers to understand the functionality of a mailbox. Pre-activated mailboxes can be assigned to the subscriber at the close of the sale.

**Prefix**

Any signal dialed prior to the address. Prefixes are used to place an address in proper context, to indicate service options, or both. An example is the prefix "0", used before an address where operator assistance or intervention is requested, such as for collect calls.

**PBX**

Private Branch Exchange is a private switching system, either manual or automatic, usually serving an organization, such as a business or a government agency, and usually located on the customer's premise.

**Private Messages Network**

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When callers finish recording a private message, they can press [#] [9] [2] to mark the message private. If a message is marked private, Voice Mail subscribers cannot send a copy of the message to another Voice Mail mailbox.

### **Public Switched Telephone**

The portion of the total network that supports public switched telephone network services. It provides the capability for interconnecting virtually any home or office in the country with any other.

### **RACF**

Remote Access to Call Forwarding is a feature of Call Forwarding in some COs, allows the subscriber to activate and deactivate Call Forwarding from a remote location.

### **Reply**

The Reply feature allows Voice Mail subscribers to send a reply to other Voice Mail subscribers.

### **Return Receipt**

Voice Mail subscribers mark messages Return Receipt if they want to be notified of the time the recipient listens to the message. When Voice Mail subscribers finish recording a message, they can mark it Return Receipt by pressing [#] [9] [3].

### **Rewind**

While listening to messages, subscribers can press [7] to back up in five second intervals.

### **Send**

The Send feature allows Voice Mail subscribers to send a message to other subscribers' mailboxes.

### **Setup Procedure**

The First time subscribers call Voice Mail, they follow a three step "Setup Procedure" —selecting a personal pass-code, recording a name announcement, and recording a greeting. (See Section 8, *Setting Up Your Mailbox.*)

### **Signal**

An electrical, optical, or other representation of information for (a) messages, i.e. voice, data, video; (b) network control, i.e. call routing, network management; (c) internal operation of network elements, i.e. timing and control of switching systems.

### **Signaling**

The transmission of address, supervision, or other switching information between stations and switching systems.

### **Simplified Message Desk Interface (SMDI)**

A separate datalink that carries call history information to the Voice Mail platform, enabling the platform to locate the subscriber's mailbox and play the personal greeting for the caller. SMDI's datalink also provides the transport link to activate and deactivate the message waiting indicator (MWI special dial tone) of subscribers. The generic feature is titled SMDI.

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**Station Equipment**

Generally located on the customer's premises. Its primary functions are to transmit and receive the information flow and required controls signals between customers and the network.

**Station Number**

The final four digits of a standard seven- or 10-digit address that define a connection to a specific customer's line within a central office.

**Sub-mailboxes**

Sub-mailboxes allow subscribers with a single telephone line to have individual private mailboxes. Each sub-mailbox has its own pass-code, name announcement, and greeting and is accessible only by the person who knows the pass-code. (See Section 9, *Sub-mailboxes*.)

**Subscriber**

A subscriber is any person who has access to a mailbox or to a sub-mailbox.

**Supervision**

The constant monitoring and controlling of the status of a call.

**Switching**

Refers to the process of connecting appropriate lines and trunks to form a desired communication path between two station sets. Included are all kinds of related functions, such as sending and receiving signals, monitoring the status of circuits, translating addresses to routing instructions, alternate routing, testing circuits for busy condition, and detecting and recording troubles.

**Switching Systems**

Interconnect the transmission facilities at various key locations and route traffic through the network.

**T1 Trunk**

A digitized line enabling twenty-four simultaneous channels (24 digitalized conversations at once).

**Tandem Switching System**

A broad functional category representing systems that connect trunks to trunks. Those offices that connect trunks within a metropolitan area are referred to as local tandem offices. Those offices that connect trunks in the toll network portion of the PSTN are called toll offices.

**Toll Charge**

A charge for telephone service for calls outside the designated local exchange area. Toll service calls are billed individually.

**Touch Tone**

Registered AT&T trademark for a tone-signaling telephone— distinct from a pulse-tone or rotary dialing telephone.

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**Translation**

The operation of converting information from one form to another. In switching systems, the process of interpreting all or part of a destination code to determine the routing of a call.

**Transmission Facility**

An element of physical telephone plant that performs the function of transmission; for example, a multipart cable, a coaxial cable system, or a microwave radio system. Provides the communications paths that "carry" the information between customers. In general, transmission facilities consist of some sort of transmission medium (for example, the atmosphere, paired cable, coaxial cable) and various types of electronic equipment located at different points along the transmission medium. This equipment amplifies and, sometimes, regenerates the transmitted signals. In addition, various types of facility terminal equipment provide functions needed where transmission facilities connect to switching systems and at facility junction points.

**Trunk**

A communications channel between two switching systems.