

# NENA Master Glossary of 9-1-1 Terminology

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### **1.1 Purpose**

This document presents terms, acronyms and definitions associated with the 9-1-1 industry, including those used in NENA Recommended Standards documents.

### **1.2 Copyright and Responsibility**

This approved document was compiled by the NENA Technical Committee and the PSAP Operational Standards Committee. For more information about this practice, contact:

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### **1.3 Disclaimer**

This document has been prepared solely for the voluntary use of 9-1-1 Service Providers, 9-1-1 Equipment vendors, Local Exchange Carriers and participating Data Service Providers.

By using this document, the user agrees that the National Emergency Number Association (NENA) will have no liability for any consequential, incidental, special, or punitive damages that may result.

### **1.4 Overview**

This document provides a compilation of terms/definitions and acronyms utilized in the 9-1-1 industry and utilized in approved NENA Recommended Standards documents.

### **1.5 Reason for Reissue**

NENA reserves the right to modify this reference. When ever it is reissued, the reason(s) will be provided in this paragraph.

### **1.6 References**

NENA Recommendations for Standard documents are registered by format by the NENA Executive Office and assigned an identifying number in accordance with the following numbering plan:

NENA-xx-yyy

Where "xx" represents the categories:

- 01 for Technical Standards Administration
- 02 for Technical Data Standards
- 03 for Technical Network Standards
- 04 for Technical PSAP Standards
- 05 for Technical Wireless Standards
- 06 for ALEC and Private Switch Standards

NENA Standards Documents are available on the NENA WEB Site [www.nena9-1-1.org](http://www.nena9-1-1.org)

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**Exhibit 2**

<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>1A2</i></b>	A designation for Key Telephone Systems which utilize an "A" lead for control.
<b><i>9-1-1</i></b>	A three digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.
<b><i>9-1-1 Service Area</i></b>	The geographic area that has been granted authority by a state or local governmental body to provide 9-1-1 service.
<b><i>9-1-1 System</i></b>	The set of network, database and CPE components required to provide 9-1-1 service.
<b><i>9-1-1 Tandem</i></b>	(See E9-1-1 Control Office)
<b><i>"A" Lead Control</i></b>	A wire used to control the Key Telephone Unit in a 1A2 type Key Telephone System. In some E9-1-1 systems it is used to identify the position connected to the trunk.
<b><i>Abandoned Call</i></b>	A call placed to 9-1-1 in which the caller disconnects before the call can be answered by the Public Safety Answering Point (PSAP) attendant.
<b><i>Access Line</i></b>	The connection between a customer premises network interface and the Local Exchange Carrier that provides access to the Public Switched Telephone Network (PSTN).
<b><i>Advanced Mobile Phone Service (AMPS)</i></b>	The analog radio interface utilized in cellular telephone systems.
<b><i>Alarm Dry Contacts</i></b>	A set of relay contacts which are caused to either open or close when an alarm condition occurs. (Ref. NENA 04-001)
<b><i>ALI Retrieval</i></b>	A request for ALI record from the PSAP to the ALI database.
<b><i>ALI Retrieval Rate</i></b>	The number of requests for ALI that are not duplicated within a two (2) minute time frame.
<b><i>Alternate ISDN PSAP</i></b>	(See Alternate PSAP)
<b><i>Alternate Number</i></b>	Used in Interim Number Portability (INP), the caller's original telephone number which is call forwarded to the new carrier's telephone number. Also known as Call Forward Number.
<b><i>Alternate PSAP</i></b>	A PSAP designated to receive calls when the primary PSAP is unable to do so.
<b><i>Alternate Routing</i></b>	The capability of routing 9-1-1 calls to a designated alternate location(s) if all 9-1-1 trunks to a primary PSAP are busy or out of service. May be activated upon request or automatically, if detectable, when 9-1-1 equipment fails or the PSAP itself is disabled.
<b><i>American Standard Code for Information Interchange (ASCII)</i></b>	This standard defines the code for a character set to be used for information interchange between equipment of different manufacturers and is a standard for data communications over telephone lines. In the context of TDD/TTY this refers to both a binary code and modulation method used for 110/300 baud TDD/TTY communications.
<b><i>Amplitude Modulated</i></b>	The encoding of a carrier wave by variation of its amplitude in accordance with an input signal.
<b><i>Angle of Arrival (AOA)</i></b>	A terrestrial Location Determination Technology (LDT) that computes a transmitter's location based upon the angle at which the transmitter's radio signal strikes multiple receivers.
<b><i>Answering Position</i></b>	(see Attendant Position)
<b><i>Attendant Position</i></b>	The Customer Premises Equipment (CPE) at which calls are answered and responded to by the Telecommunicator.
<b><i>Automatic Alarm and Automatic Alerting Device</i></b>	Any automated device which will access the 9-1-1 system for emergency services upon activation and does not provide for two-way communication. (Many states prohibit the dialing of 9-1-1 by an automated device.)

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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Automatic Call Distributor (ACD)</i></b>	Equipment that automatically distributes incoming calls to available PSAP attendants in the order the calls are received, or queues calls until an attendant becomes available.
<b><i>Automatic Location Identification (ALI)</i></b>	The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone and supplementary emergency services information.
<b><i>Automatic Location Identification (ALI) Call Retrieval</i></b>	A process of counting ALI database queries not duplicated within a two (2) minute time frame.
<b><i>Automatic Location Identification (ALI) Customer Retrieval</i></b>	A process of counting ALI database queries not duplicated within a twenty-four (24) hour time frame.
<b><i>Automatic Location Identification (ALI) Database</i></b>	The set of ALI records residing on a computer system.
<b><i>Automatic Location Identification (ALI) Multiplexer</i></b>	A CPE component which performs the function of communicating with the ALI database. An ALI Multiplexer typically works in conjunction with an ANI controller.
<b><i>Automatic Location Identification (ALI) Retrieval</i></b>	The process of querying the 9-1-1 database for ALI records.
<b><i>Automatic Number Identification (ANI)</i></b>	Telephone number associated with the access line from which a call originates.
<b><i>Automatic Number Identification (ANI) Controller</i></b>	A stand-alone CPE component which provides the ANI decoding and function key control for 9-1-1 service.
<b><i>Automatic Number Identification Information Digits (ANI II Digits)</i></b>	Digits in the Enhanced MF Signaling protocol that indicate to the PSAP CPE ANI display device whether the display should remain steady or flash, or if the call is a test call.
<b><i>Average Busy Hour</i></b>	The 1-hour period during the week statistically shown over time to be the hour in which the most telephone calls are received.
<b><i>Backup Public Safety Answering Point (PSAP)</i></b>	Typically a disaster recovery answering point which serves as a backup to the primary PSAP and is not co-located with the primary PSAP.
<b><i>Basic 9-1-1</i></b>	An emergency telephone system which automatically connects 9-1-1 callers to a designated answering point. Call routing is determined by originating central office only. Basic 9-1-1 may or may not support ANI and/or ALI.
<b><i>Baud Rate</i></b>	A measure of signaling speed in data communications that specifies the number of signaling elements that can be transmitted each second.
<b><i>Baudot Code</i></b>	A five bit encoding scheme that represents text and digits. It is the standard transmission signaling scheme used by TTY (TDD) devices. (per EIA PN-1663)
<b><i>Binary Coded Decimal (BCD)</i></b>	A coding system in which each decimal digit from 0 to 9 is represented by four binary (0 or 1) digits. (Ref. NENA 04-002)
<b><i>Busy Hour</i></b>	The hour each day with the greatest call volume.
<b><i>Busy Tone</i></b>	An audible signal indicating a call cannot be completed because the called access line is busy. The tone is applied 60 times per minute.
<b><i>Call Check</i></b>	(see Recall Recorder)

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<b>Term</b>	<b>Definition</b>
<b>Call Detail Logging</b>	The process of recording incoming call data. Also known as ANI printout. (Ref. NENA 04-001)
<b>Call Progress Signals</b>	Audible cues to advise 9-1-1 callers of the status of their call. (e.g. Busy Tone, Reorder Tone)
<b>Call Relay</b>	Forwarding of pertinent information by a PSAP attendant to the appropriate response agency (Not to be confused with Telephone Relay Service).
<b>Call Sequencer</b>	A unit which monitors incoming calls at a PSAP and indicates to the answering positions which of the incoming calls has been unanswered the longest.
<b>Call Transfer</b>	The capability to redirect a call to another party.
<b>Calling Party Hold</b>	The capability of the PSAP to maintain control of a 9-1-1 caller's access line, even if the caller hangs up.
<b>Calling Party's Number (CPN)</b>	The call back number associated with a wireless telephone. (Similar to ANI for wireline telephones) (Ref. NENA 03-002)
<b>Code Division Multiple Access (CDMA)</b>	A digital radio interface utilized by some North American PCS carriers.
<b>Carrier Frequency</b>	The frequency of the unmodulated IRIG B or E signal. (Ref. NENA 04-002)
<b>Cathode Ray Tube (CRT)</b>	Video monitor used for displaying information.
<b>Cell</b>	The wireless telecommunications (Cellular or PCS) antenna serving a specific geographic area.
<b>Cell face</b>	(See Cell Sector)
<b>Cell Sector</b>	One face of a cell antenna (typically 3-sided) that operates independently of the other sectors.
<b>Cell Site</b>	The location of a cell and related equipment.
<b>Cellular Priority Access Service (CPAS)</b>	A uniform nationwide method of providing priority access to authorized wireless subscribers in the event of an emergency.
<b>Central Office (CO)</b>	The Local Exchange Carrier facility where access lines are connected to switching equipment for connection to the Public Switched Telephone Network.
<b>Central Processing Unit (CPU)</b>	The part of a computer which performs the logical, computational and decision making functions.
<b>Centralized Automated Message Accounting (CAMA)</b>	An MF signaling protocol originally designed for billing purposes, capable of transmitting a single telephone number.
<b>Centrex</b>	A business telephone service offered by some Local Exchange Carriers that provides PBX type features over access lines.
<b>Circuit Route</b>	The physical path between two terminal locations.
<b>Class of Service</b>	A designation of the type of telephone service, e.g. residential, business, centrex, coin, PBX, wireless.
<b>Company Identifier (Company ID)</b>	A 3-5 character identifier chosen by the Local Exchange Carrier that distinguishes the entity providing dial tone to the end user. The Company Identifier is maintained by NENA in a nationally accessible data base.
<b>Computer Aided Dispatch (CAD)</b>	A computer based system which aids PSAP attendants by automating selected dispatching and record keeping activities.
<b>Conference Transfer</b>	The capability to bridge a third party onto an existing call. Also known as three-way calling.

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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Consolidated PSAP</i></b>	A facility where one or more Public Safety Agencies choose to operate as a single 9-1-1 entity.
<b><i>Customer Comments</i></b>	Supplementary information useful in dispatching, provided in conjunction with ALI displays.
<b><i>Customer Premises Equipment (CPE)</i></b>	Terminal equipment at a PSAP.
<b><i>Cutover</i></b>	The activation of a new telephone call processing or switching system.
<b><i>Data Base</i></b>	An organized collection of information, typically stored in computer systems, comprised of fields, records (data) and indexes. In 9-1-1, such data bases include MSAG, telephone number/ESN, and telephone customer records.
<b><i>Data Base Management System (DBMS)</i></b>	A system of manual procedures and computer programs used to create, store and update the data required to provide Selective Routing and/or Automatic Location Identification for 9-1-1 systems.
<b><i>Data Base Management System Provider</i></b>	Entity providing Selective Routing (SR) and/or Automatic Location Identification (ALI) data services.
<b><i>Data Bit</i></b>	A binary digit, either a zero (0) or a one (1).
<b><i>Data Exchange</i></b>	The process of exchanging 9-1-1 data between Service Providers and the Data Base Management System Provider.
<b><i>Data Processing Day</i></b>	The day in which processing of a given service order update occurs.
<b><i>Decaying</i></b>	Directions from positive to negative, relative to the starting points, whose transient amplitudes decay with time in a ringwave pattern. These transients are typically caused by sources internal to the PSAP (motor, lighting and inductive loads, etc.) (Ref. NENA 04-001)
<b><i>Dedicated Trunk</i></b>	A telephone circuit used for a single purpose; such as transmission of 9-1-1 calls.
<b><i>Default Routing</i></b>	The capability to route a 9-1-1 call to a designated (default) PSAP when the incoming 9-1-1 call cannot be selectively routed due to an ANI failure or other cause.
<b><i>Dial Tone First</i></b>	The provision of dial tone to enable a caller to originate and complete 9-1-1 calls from public telephones without inserting a coin or any other device. Also known as coin-free dialing.
<b><i>Direct Dispatch</i></b>	The performance of 9-1-1 call answering and dispatching by personnel at the primary PSAP.
<b><i>Directory Number (DN)</i></b>	A dialable 10-digit telephone number associated with a telephone subscriber or call destination.
<b><i>Discrepancies</i></b>	A Service Provider term used to describe subscriber records that do not match the MSAG and are referred to an error file or report for resolution.
<b><i>Disk Operating System (DOS)</i></b>	A personal computer operating system which manages the computer's resources.
<b><i>Diverse Routing</i></b>	The practice of routing circuits along different physical paths in order to prevent total loss of 9-1-1 service in the event of a facility failure.
<b><i>Dual Tone Multi-Frequency (DTMF)</i></b>	One of the methods used for signaling in the telephone network. Often referred to as TOUCH-TONE™.
<b><i>Electronic Key Telephone System (E-Key)</i></b>	A multi-line telephone system which utilizes stored program control technology instead of KSU's and KTU's.
<b><i>Emergency Call</i></b>	A telephone request for public safety agency emergency services which requires immediate action to save a life, to report a fire or to stop a crime. May include other situations as determined locally.

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<b>Term</b>	<b>Definition</b>
<b>Emergency Message (EM) Circuits</b>	The special service circuits used to carry 9-1-1 calls to the PSAP.
<b>Emergency Ring Back</b>	The capability of a PSAP attendant to ring the telephone on a held circuit. Requires Calling Party Hold. Also known as re-ring. (A Basic 9-1-1 feature)
<b>Emergency Service Central Office Number (ESCO)</b>	The information delivered to the PSAP when there is an ANI failure between the end office and the 9-1-1 Control Office. When ANI is not available, the 9-1-1 call is default routed and the ANI display at the PSAP will be "911-0TTT" (or 911-TTTT) with TTT identifying the incoming trunk group.
<b>Emergency Service Number (ESN)/ Emergency Service Zone (ESZ)</b>	An ESN is a three to five digit number representing a unique combination of emergency service agencies (Law Enforcement, Fire, and Emergency Medical Service) designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ). The ESN facilitates selective routing and selective transfer, if required, to the appropriate PSAP and the dispatching of the proper service agency(ies).
<b>Emergency Service (ES) Trunks</b>	Message trunks capable of providing ANI, connecting the serving central office of the 9-1-1 calling party and the designated E9-1-1 Control Office.
<b>End Office</b>	(See central office).
<b>End User</b>	The 9-1-1 caller
<b>Enhanced 9-1-1 (E9-1-1)</b>	An emergency telephone system which includes network switching, database and CPE elements capable of providing Selective Routing, Selective Transfer, Fixed Transfer, ANI and ALI.
<b>Enhanced 9-1-1 (E9-1-1) Control Office</b>	The Central Office that provides the tandem switching of 9-1-1 calls. It controls delivery of the voice call with ANI to the PSAP and provides Selective Routing, Speed Calling, Selective Transfer, Fixed Transfer, and certain maintenance functions for each PSAP. Also known as 9-1-1 Selective Routing Tandem or Selective Router.
<b>Enhanced 9-1-1 (E9-1-1) Tandem Office</b>	(See E9-1-1 Control Office)
<b>Essex</b>	(See Centrex)
<b>Exchange</b>	A defined area, served by one or more telephone central offices, within which a Local Exchange Carrier furnishes service.
<b>Exempt Lines</b>	Access lines not subject to 9-1-1 charges.
<b>Fast Busy</b>	(see Reorder Tone)
<b>Feature Group D (FGD)</b>	An MF signaling protocol, originally developed to support equal access to long distance services, capable of carrying one or two ten-digit telephone numbers.
<b>Fixed Transfer</b>	The capability of a PSAP attendant to transfer a 9-1-1 call to a pre-determined location by activating a single button.
<b>Footprint</b>	The geographic area covered by a particular wireless cell or cell sector.
<b>Forced Disconnect</b>	The capability of a PSAP attendant to disconnect a 9-1-1 call even if the calling party remains off-hook. Used to prevent overloading of 9-1-1 trunks.
<b>Foreign Exchange Service (FX)</b>	A telephone line switched in an exchange or central office other than the exchange or central office area in which the telephone is located.
<b>Free Run</b>	The operating condition of a clock in which the local oscillator is not locked to an external synchronization reference, and is using no storage techniques to sustain its operating frequency. (Ref. NENA 04-002)

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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Global Positioning System (GPS)</i></b>	A satellite based Location Determination Technology (LDT).
<b><i>Grade of Service</i></b>	The probability (P), expressed as a decimal fraction, of a telephone call being blocked. P.01 is the grade of service reflecting the probability that one call out of one hundred during the average busy hour will be blocked. P.01 is the minimum recommended Grade of Service for 9-1-1 trunk groups.
<b><i>Global Standard for Mobile Communications (GSM)</i></b>	International standard digital radio interface utilized by some North American PCS carriers.
<b><i>Hearing Carry Over (HCO)</i></b>	A method which utilizes both voice and text communications on the same call, allowing a person who is speech impaired to listen to the other party's conversation and respond by typing via a TTY or other means for text communications.
<b><i>Highway Call Box</i></b>	A telephone enclosed in a box and placed along a highway that allows a motorist to summon emergency and non-emergency assistance.
<b><i>Idle Circuit Tone Application</i></b>	A feature which applies a distinctive tone toward the PSAP attendant to distinguish between calls that have been abandoned before the attendant answers, and calls where the caller is unable or unwilling to speak.
<b><i>Impulse Transient</i></b>	A high energy unidirectional voltage or current impulse resembling a "spike" which is typically caused by sources external to the PSAP (lightning, grid switching, etc.). (Ref. NENA 04-001)
<b><i>Instant Playback Recorder</i></b>	(see Recall Recorder)
<b><i>Integrated Services Digital Network (ISDN)</i></b>	A digital interface providing multiple channels for simultaneous functions between the network and CPE.
<b><i>Inter-local Services Agreement</i></b>	An agreement among governmental jurisdictions or privately owned systems, or both, within a specified area to share 9-1-1 system costs, maintenance responsibilities, and other considerations.
<b><i>Inter-Range-Instrumentation Group (IRIG)</i></b>	This group, in 1959, proposed a series of time code formats now known as IRIG or NASA time codes. (Ref. NENA 04-002)
<b><i>Inter-Tandem Transfer</i></b>	The capability of transferring a call over the 9-1-1 network from a PSAP served by one 9-1-1 tandem to a PSAP served by a different 9-1-1 tandem.
<b><i>Internal Clock</i></b>	A time-of-day reference source for timing information in equipment or systems. (Ref. NENA 04-002)
<b><i>Interoperability</i></b>	The capability for disparate systems to work together.
<b><i>ISDN PSAP</i></b>	(See PSAP)
<b><i>Key Pulse (KP)</i></b>	An MF signaling tone (digit)
<b><i>Key Service Unit (KSU)</i></b>	Equipment which provides ringing, lamp voltages, conference, etc. for multi-line key telephone sets.
<b><i>Key Telephone System (KTS)</i></b>	A multi-line telephone system comprised of multi-line telephone sets, KTU's and KSU's.
<b><i>Key Telephone Unit (KTU)</i></b>	A unit mounted in a KSU, required per line, providing key telephone control functions. e.g. hold, lamp, common ringing.
<b><i>Light Emitting Diode (LED)</i></b>	Lamps used for display of information. Commonly used on telephone sets to indicate line status.



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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Local Exchange Carrier (LEC)</i></b>	A Telecommunications Carrier (TC) under the state/local Public Utilities Act that provide local exchange telecommunications services. Also known as Incumbent Local Exchange Carriers (ILECs), Alternate Local Exchange Carriers (ALECs), Competitive Local Exchange Carriers (CLECs), Competitive Access Providers (CAPs), Certified Local Exchange Carriers (CLECs), and Local Service Providers (LSPs).
<b><i>Local Exchange Routing Guide (LERG)</i></b>	A database which defines inter-exchange call routing in the North American Public Switched Telephone Network. It associates NPA/NXX's with their appropriate network elements.
<b><i>Local Loop</i></b>	A physical facility between a customer's network interface and the local serving central office. The most common form of local loop is a pair of wires.
<b><i>Local Number Portability (LNP)</i></b>	A process by which a telephone number may be reassigned from one Local Exchange Carrier to another.
<b><i>Location Determination Technology (LDT)</i></b>	A system which computes the X and Y coordinates of a wireless 9-1-1 caller.
<b><i>Logging Recorder</i></b>	A voice-band audio recorder which records to and plays from a permanent storage media such as tape or disk. Logging recorders are typically multi-channel so as to simultaneously record from several sources.
<b><i>Login</i></b>	The process of identifying and authenticating oneself to a computer, ACD or E9-1-1 attendant position system.
<b><i>Loopback</i></b>	A type of diagnostic test in which a transmitted signal is returned to the transmitting device and then compared to the original signal.
<b><i>Main Station</i></b>	(See Access Line)
<b><i>Management Information System (MIS)</i></b>	A program that collects, stores and collates data into reports enabling interpretation and evaluation of performance, trends, traffic capacities, etc.
<b><i>Master Clock</i></b>	An accurate timing device that generates synchronization signals to control other clocks or equipment. (Ref. NENA 04-002)
<b><i>Master Street Address Guide (MSAG)</i></b>	A data base of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls.
<b><i>Mechanical Dialer</i></b>	(see Automatic Alarm and Automatic Alerting Device)
<b><i>Micro-Cell</i></b>	Commonly used to describe PCS cells due to their much smaller footprint compared to a Cellular cell.
<b><i>Millisecond (ms)</i></b>	One-thousandth of a second (0.001 s)
<b><i>Mobile Directory Number (MDN)</i></b>	(see Calling Party's Number (CPN))
<b><i>Mobile Identified Number (MIN)</i></b>	A 34-bit binary number that a wireless handset transmits to identify itself to the wireless network.
<b><i>Mobile Switching Center (MSC)</i></b>	The wireless equivalent of a Central Office, which provides switching functions from wireless calls.
<b><i>Mobile Switching Office (MSO)</i></b>	(See Mobile Switching Center (MSC))
<b><i>Modem</i></b>	An interface device which allows digital data signals to be transmitted over analog telephone lines.
<b><i>Multi-Frequency (MF)</i></b>	A type of signaling used on analog interoffice and 9-1-1 trunks.

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<b>Term</b>	<b>Definition</b>
<b>National Emergency Number Association (NENA)</b>	The National Emergency Number Association is a not-for-profit corporation established in 1982 to further the goal of "One Nation-One Number." NENA is a networking source and promotes research, planning and training. NENA strives to educate, set standards and provide certification programs, legislative representation and technical assistance for implementing and managing 9-1-1 systems.
<b>Nationally Recognized Testing Laboratory (NRTL)</b>	Any of several testing laboratories recognized in the United States in accordance with industry and municipal standards.
<b>Network Reliability Council</b>	A study group made up of experts in the field of networks as they relate to Public Safety Systems charged with assessing the reliability of the network and to make recommendations concerning service quality.
<b>NNX / NXX</b>	A three digit code in which N is any digit 2 through 9 and X is any digit 0 through 9. They are the second set of three digits in the North American Numbering Plan.
<b>No Record Found (NRF)</b>	A condition where no ALI information is available for display at the PSAP.
<b>Non-blocking</b>	A switching network designed to complete all call attempts.
<b>Non-Selective Routing</b>	The routing of 9-1-1 calls based on the NXX or trunk group.
<b>North American Numbering Plan</b>	Use of 10 digit dialing in the format of a 3 digit NPA, followed by 3 digit NXX and 4 digit line number. NPA-NXX-XXXX.
<b>Number Plan Area (NPA)</b>	An established three-digit area code for a particular calling area. It takes the form of NXX, where N is any digit from 2 through 9 and X is any digit from 0 through 9.
<b>Numbering Plan Digit (NPD)</b>	A component of the traditional 9-1-1 signaling protocol between the 9-1-1 Control Office and the PSAP CPE. Identifies 1 of 4 possible area codes.
<b>On-Time-Point</b>	The leading edge of a pulse which occurs coincident with the beginning of a second. (Ref. NENA 04-002)
<b>Order of Authority</b>	A formal order by the state or local authority which authorizes public agencies or public safety agencies to provide 9-1-1 service in a geographical area.
<b>Originating Switchhook Status Indication</b>	An audible and/or visible indication of the status of a calling party being held. (A Basic 9-1-1 feature)
<b>Oscillatory</b>	A transient comprised of various impulse transients with alternating characteristics. (Ref. NENA 04-001)
<b>Overflow</b>	The process of automatically rerouting calls to an alternate facility.
<b>P.01 Grade of Service</b>	(See Grade of Service.)
<b>Pilot Number</b>	A telephone customer's main account number, lead number, main listed number, or billing account.
<b>Position Identifier</b>	A pulse in the IRIG time code which has a predetermined duration and rate that is used to identify location of time code information. (Ref. NENA 04-002)
<b>Primary ISDN PSAP</b>	(See Primary PSAP)
<b>Primary Public Safety Answering Point (PSAP)</b>	A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. (See PSAP)
<b>Private Branch Exchange (PBX)</b>	A private telephone system that is connected to the Public Switched Telephone Network.
<b>Private Switch ALI (PSA)</b>	A service option which provides Enhanced 9-1-1 features for telephone stations behind private switches. e.g. PBXs

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<b>Term</b>	<b>Definition</b>
<b><i>Pseudo Automatic Location Identification (pALI)</i></b>	An ALI record associated with a pANI, configured to provide the location of the wireless cell or sector and information about its coverage or serving area (footprint).
<b><i>Pseudo Automatic Number Identification (pANI)</i></b>	A telephone number used to support routing of wireless 9-1-1 calls. It may identify a wireless cell, cell sector or PSAP to which the call should be routed. Also known as routing number.
<b><i>Public Agency</i></b>	A state, or any unit of local government or special purpose district located in whole or in part within a state, which provides police, fire-fighting, medical or other emergency services or has authority to do so.
<b><i>Public Safety Agency</i></b>	An entity that provides fire fighting, law enforcement, emergency medical, or other emergency service.
<b><i>Public Safety Answering Point (PSAP)</i></b>	A facility equipped and staffed to receive 9-1-1 calls. A Primary PSAP receives the calls directly. If the call is relayed or transferred, the next receiving PSAP is designated a Secondary PSAP.
<b><i>Public Switched Telephone Network (PSTN)</i></b>	The network of equipment, lines, and controls assembled to establish communication paths between calling and called parties in North America.
<b><i>Pulse Width Coded</i></b>	Modulation of a carrier by the digital representation of an analog signal. (Ref. NENA 04-002)
<b><i>Rate Center</i></b>	A geographically specified area used for determining mileage and/or usage dependent rates in the Public Switched Telephone Network.
<b><i>Real-Time</i></b>	The availability of information at the exact time it is occurring.
<b><i>Recall Recorder</i></b>	A voice-band audio recorder which records to and plays from a media that may not be permanent (such as tape loop, fixed disk or RAM). Recall recorders are typically associated with each operator position for the purpose of recording and playing back their most recent conversations. Also known as Call Check or Instant Playback Recorder.
<b><i>Redundancy</i></b>	Duplication of components, running in parallel, to increase reliability.
<b><i>Remote Call Forwarding</i></b>	As utilized within Interim Number Portability, a permanent call forwarding feature that allows a call to one Directory Number to be automatically advanced to a Directory Number of another Local Exchange Carrier.
<b><i>Reorder Tone</i></b>	An audible tone of 120 interrupts per minute (ipm) returned to the calling party to indicate the call cannot be processed through the network. Sometimes referred to as fast busy.
<b><i>Re-Ring</i></b>	(see Emergency Ring Back)
<b><i>Response Agency</i></b>	The public safety agency having legal or consensual obligation to respond to a call for service.
<b><i>Ringback Tone</i></b>	A tone returned to the caller to indicate that a call is being processed.
<b><i>Route Diversity</i></b>	(See Diverse Routing)
<b><i>Routing Number</i></b>	(see pANI)
<b><i>RS-232C</i></b>	An electrical and mechanical standard for the serial transfer of digital information between digital systems, such as computers, printers or communications equipment.
<b><i>Secondary ISDN PSAP</i></b>	(See Secondary PSAP)
<b><i>Secondary PSAP</i></b>	A PSAP to which 9-1-1 calls are transferred from a Primary PSAP. (See PSAP)
<b><i>Selective Routing (SR)</i></b>	The routing of a 9-1-1 call to the proper PSAP based upon the location of the caller. Selective routing is controlled by the ESN which is derived from the customer location.

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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Selective Routing Data Base (SRDB)</i></b>	The routing table that contains telephone number to ESN relationships which determines the routing of 9-1-1 calls.
<b><i>Selective Transfer</i></b>	The capability to transfer a 9-1-1 call to a response agency by operation of one of several buttons typically designated as police, fire, and emergency medical; based on the ESN of the caller.
<b><i>Service Address</i></b>	The physical location of a subscriber access line. Service Address is the recommended address for 9-1-1 use. (May be different from the listed address or billing address)
<b><i>Service Order</i></b>	Local Exchange Carrier document used for additions, changes or removals of telephone service.
<b><i>Service Provider</i></b>	An entity providing one or more of the following 9-1-1 elements: network, CPE, or database service.
<b><i>Serving Central Office</i></b>	The central office (CO) from which a subscriber is served. (See Central Office)
<b><i>Signaling System 7 (SS7) /Common Channel Signaling 7 (CCS7)</i></b>	An inter-office signaling network separate from the voice path network, utilizing high speed data transmission to accomplish call processing. (The Public Switched Telephone Network is in the process of upgrading from MF Signaling to SS7)
<b><i>Signature Control</i></b>	A means to control the output of a time code signal based on the sync or lock status of the PSAP master clock. (Ref. NENA 04-002)
<b><i>Single Point of Failure</i></b>	A hardware or software component or sub-system which experiences a failure causing more than 50% of the total system to fail. (Ref. NENA 04-001 Reliability Objectives)
<b><i>Source Data Base</i></b>	The data base maintained by each Service Provider which provides customer telephone number and location information for the initial load and ongoing updates to the ALI data base held by the Data Base Management System Provider.
<b><i>Splash Ringing</i></b>	The capability to provide an audible signal simultaneously with trunk seizure on an incoming 9-1-1 call.
<b><i>Start (ST)</i></b>	An MF signaling tone (digit).
<b><i>Start Bit</i></b>	In asynchronous transmission, the first element in each character that prepares the receiving device to recognize the incoming information.
<b><i>Start Prime (STP)</i></b>	An MF signaling tone (digit)
<b><i>Stop Bit</i></b>	In asynchronous transmission, the last transmitted element in each character, which permits the receiver to come to an idle condition before accepting another character.
<b><i>Straight Binary Seconds (SBS)</i></b>	A binary number that appears in the IRIG time code which represents the total number of seconds since midnight. (Ref. NENA 04-002)
<b><i>Sync</i></b>	Abbreviation for synchronized or synchronization.
<b><i>Synchronization</i></b>	In the context of timing, synchronization means to bring clocks or data streams into phase so they agree with the PSAP master clock. (Ref. NENA 04-002)
<b><i>System Provider</i></b>	(See Service Provider)
<b><i>Tag</i></b>	A unique label that precedes the data for the data element associated with the tag.
<b><i>Tag Data</i></b>	A method of identifying data elements of varying lengths within a data record.

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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Tag Data Record</i></b>	A record of varying length, comprised of pre-defined tag labels and their associated data elements. There is no particular sequence of the tag/data combinations within a Tag Data Record. Each tag and its associated data is separated from all other tag/data combinations by a pre-determined field separator. Each Tag Data Record is followed by a pre-determined End Of Record character. The receiving data base management system will specify the minimum set of tag/data elements required by that system to uniquely identify and process the record.
<b><i>Tandem Central Office (Tandem CO)</i></b>	(See E9-1-1 Control Office)
<b><i>Telecommunications Device for the Deaf (TDD)</i></b>	Also known as TTY. See Teletypewriter (TTY)
<b><i>Telecommunications Relay Service (TRS)</i></b>	A federally mandated service provided by states that provides communication relay between TTY users and voice telephone users, via a third party, for communications assistance.
<b><i>Telecommunicator</i></b>	As used in 9-1-1, a person who is trained and employed in public safety telecommunications. The term applies to call takers, dispatchers, radio operators, data terminal operators or any combination of such functions in a PSAP.
<b><i>Teletypewriter (TTY)</i></b>	Also known as TDD. A device capable of information interchange between compatible units using a dial up or private-line telephone network connections as the transmission medium. ASCII or Baudot codes are used by these units. (per EIA PN-1663)
<b><i>Three-Way Calling</i></b>	(see Conference Transfer)
<b><i>Time Code</i></b>	A series of pulses or characters which represent a digit such as a 4. The location of a particular binary digit in the code defines its meaning, 4 hours, 4 minutes or 4 seconds. (Ref. NENA 04-002)
<b><i>Time Difference of Arrival (TDOA)</i></b>	A terrestrial Location Determination Technology (LDT) that computes a transmitter's location based upon the times a signal is received at multiple receivers.
<b><i>Time Division Multiple Access (TDMA)</i></b>	A digital radio interface utilized by some North American PCS carriers.
<b><i>Time Sync Character</i></b>	A specific character location in the ASCII time code data stream which changes dependent on the lock or unlock status of the PSAP master clock to its source. (Ref. NENA 04-002)
<b><i>Traceable UTC Source</i></b>	Traceable sources of UTC time are available from various time services of the National Institute of Standards and Technology (NIST) and US Naval Observatory (USNO). These services include telephone dial-up, low and high frequency radio transmissions, and Global Positioning System (GPS). (Ref. NENA 04-002)
<b><i>Transfer</i></b>	A feature which allows the PSAP Telecommunicator to redirect a 9-1-1 call to another location.
<b><i>Transfer Key</i></b>	A key which is programmed to dial a telephone number, a selective routing transfer code, or a speed dial code to accomplish the transfer of calls.
<b><i>Transient</i></b>	A random disturbance of normal voltage with a very short time duration (<8.3ms) that occurs on the power source or data/signal/telecommunications conductors.
<b><i>Transient Voltage Surge Suppression (TVSS)</i></b>	Devices designed to protect critical PSAP equipment from transients induced on powering and data/signal/telecommunications conductors. (Ref. NENA 04-001)
<b><i>Trunk</i></b>	Typically, a communication path between central office switches, or between the 9-1-1 Control Office and the PSAP.
<b><i>Trunk Group</i></b>	One or more trunks terminated at the same two points.
<b><i>Trunk Seizure</i></b>	The point in time at which a 9-1-1 call is assigned to a trunk and acknowledgment is provided by the equipment at the distant end.

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<b><i>Term</i></b>	<b><i>Definition</i></b>
<b><i>Underwriters Laboratories (UL)</i></b>	One of several nationally recognized testing laboratories (NRTL) whose testing specifications have been adopted as de facto industry standards.
<b><i>Uninterruptible Power Supply (UPS)</i></b>	An auxiliary power unit which provides continuous battery backup power in the event of a commercial power failure.
<b><i>Universal Coordinated Time (UTC)</i></b>	Also known as Zulu or Greenwich Mean Time (GMT).
<b><i>Voice Carry Over (VCO)</i></b>	A method which utilizes both voice and text communications on the same call, allowing a person who is hearing impaired to speak directly to the other party and receive response via a TTY or other means for text communications.
<b><i>Wireless Phase I</i></b>	Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rulemaking (NPRM) 94-102. The delivery of a wireless 9-1-1 call with call-back number and identification of the cell-sector from which the call originated. Call routing is determined by cell-sector. (Target date April 1998)
<b><i>Wireless Phase II</i></b>	Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rulemaking (NPRM) 94-102. The delivery of a wireless 9-1-1 call with Phase I requirements plus location of the caller within 125 meters 67% of the time and Selective Routing based upon those coordinates. (Target date October 2001)
<b><i>Wireless Telecommunications</i></b>	The family of Telecommunications services under the heading of Commercial Mobile Radio Service. Includes Cellular, Personal Communications Services (PCS), Mobile Satellite Services (MSS) and Enhanced Specialized Mobile Radio (ESMR).
<b><i>Web</i></b>	World Wide Web or Internet.

Exhibit 3

<b>Acronym</b>	<b>Definition</b>
<b>ACD</b>	Automatic Call Distributor
<b>ADA</b>	Americans with Disabilities Act
<b>ALEC</b>	Alternate Local Exchange Carrier
<b>ALI</b>	Automatic Location Identification
<b>AMPS</b>	Advanced Mobile Phone Service
<b>ANI</b>	Automatic Number Identification
<b>AOA</b>	Angle of Arrival
<b>ASCII</b>	American Standard Code for Information Exchange
<b>BCD</b>	Binary Coded Decimal
<b>BellCore</b>	Bell Communications Research
<b>BOC</b>	Bell Operating Company
<b>CAD</b>	Computer Aided Dispatch
<b>CAMA</b>	Centralized Automatic Message Accounting
<b>CAP</b>	Competitive Access Provider
<b>CCS7</b>	Common Channel Signaling 7
<b>CDMA</b>	Code Division Multiple Access
<b>CLEC</b>	Competitive Local Exchange Carrier or Certified Local Exchange Carrier
<b>CMRS</b>	Commercial Mobile Radio Service
<b>CO</b>	Central Office
<b>CPAS</b>	Cellular Priority Access Service
<b>CPE</b>	Customer Premises Equipment
<b>CPN</b>	Calling Party's Number
<b>CPU</b>	Central Processing Unit
<b>CRT</b>	Cathode Ray Tube
<b>CTIA</b>	Cellular Telephone Industry Association
<b>DCE</b>	Data Communications Equipment
<b>DBMS</b>	Data Base Management System
<b>DN</b>	Directory Number
<b>DOS</b>	Disk Operating System
<b>DTE</b>	Data Terminal Equipment
<b>DTMF</b>	Dual Tone Multi-Frequency
<b>ELD</b>	Electro-Luminescent Display
<b>EM</b>	Emergency Message
<b>EMS</b>	Emergency Medical Service
<b>ES</b>	Emergency Service
<b>ESCO</b>	Emergency Service Central Office
<b>ESMR</b>	Enhanced Specialized Mobile Radio
<b>ESN</b>	Emergency Service Number
<b>ESZ</b>	Emergency Service Zone (same as ESN)
<b>FAQ</b>	Frequently Asked Questions
<b>FCC</b>	Federal Communications Commission
<b>FGD</b>	Feature Group D
<b>FX</b>	Foreign Exchange
<b>GMT</b>	Greenwich Mean Time
<b>GPS</b>	Global Positioning System
<b>GSM</b>	Global Standard for Mobile Communication
<b>HCO</b>	Hearing Carry Over
<b>IEEE</b>	Institute of Electrical and Electronics Engineers

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<b><i>Acronym</i></b>	<b><i>Definition</i></b>
<b><i>ILEC</i></b>	Incumbent Local Exchange Carrier
<b><i>INP</i></b>	Interim Number Portability
<b><i>ipm</i></b>	Interrupts per minute
<b><i>IRIG</i></b>	Inter-Range Instrumentation Group
<b><i>ISDN</i></b>	Integrated Services Digital Network
<b><i>KP</i></b>	Key Pulse
<b><i>KSU</i></b>	Key Service Unit
<b><i>KTS</i></b>	Key Telephone System
<b><i>KTU</i></b>	Key Telephone Unit
<b><i>LATA</i></b>	Local Access and Transport Area
<b><i>LCD</i></b>	Liquid Crystal Display
<b><i>LDT</i></b>	Location Determination Technology
<b><i>LEC</i></b>	Local Exchange Carrier
<b><i>LED</i></b>	Light Emitting Diode
<b><i>LERG</i></b>	Local Exchange Routing Guide
<b><i>LNP</i></b>	Local Number Portability
<b><i>LSP</i></b>	Local Service Provider
<b><i>LSSGR</i></b>	LATA Switching Systems Generic Requirements
<b><i>MDN</i></b>	Mobile Directory Number
<b><i>MF</i></b>	Multi-Frequency
<b><i>MIN</i></b>	Mobile Identified Number
<b><i>MIS</i></b>	Management Information System
<b><i>ms</i></b>	Millisecond
<b><i>MSAG</i></b>	Master Street Address Guide
<b><i>MSC</i></b>	Mobile Switching Center
<b><i>MSO</i></b>	Mobile Switching Office
<b><i>MSS</i></b>	Mobile Satellite Services
<b><i>MTSO</i></b>	Mobile Telephone Switching Office
<b><i>NENA</i></b>	National Emergency Number Association
<b><i>NHTSA</i></b>	National Highway Traffic Safety Administration, United States Department of Transportation
<b><i>NIP</i></b>	NYNEX Information Publication
<b><i>NIST</i></b>	National Institute of Standards and Technology
<b><i>NPA</i></b>	Numbering Plan Area
<b><i>NPB</i></b>	Numbering Plan Digit
<b><i>NRF</i></b>	No Record Found
<b><i>NRTL</i></b>	National Recognized Testing Laboratory
<b><i>NTIA</i></b>	National Telecommunications and Information Administration, United States Department of Commerce
<b><i>pALI</i></b>	Pseudo Automatic Location Identification
<b><i>pANI</i></b>	Pseudo Automatic Number Identification
<b><i>PBX</i></b>	Private Branch Exchange
<b><i>PCIA</i></b>	Personal Communications Industry Association
<b><i>PCS</i></b>	Personal Communications Service
<b><i>PSA</i></b>	Public Safety Agency
<b><i>PSALI</i></b>	Private Switch ALI
<b><i>PSAP</i></b>	Public Safety Answering Point
<b><i>PSTN</i></b>	Public Switched Telephone Network
<b><i>SBS</i></b>	Straight Binary Seconds
<b><i>SR</i></b>	Selective Routing



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<b><i>Acronym</i></b>	<b><i>Definition</i></b>
<b><i>SRDB</i></b>	Selective Routing Data Base
<b><i>SS7</i></b>	Signaling System 7
<b><i>ST</i></b>	Start
<b><i>STP</i></b>	Start Prime
<b><i>TA</i></b>	Technical Advisory (published by Bellcore)
<b><i>TC</i></b>	Telecommunications Carrier
<b><i>TDD</i></b>	Telecommunication Device for the Deaf
<b><i>TDMA</i></b>	Time Division Multiple Access
<b><i>TDOA</i></b>	Time Difference of Arrival
<b><i>TELCO</i></b>	Telephone Company
<b><i>TN</i></b>	Telephone Number
<b><i>TR</i></b>	Technical Reference (published by Bellcore)
<b><i>TRS</i></b>	Telecommunications Relay Service
<b><i>TTL</i></b>	Transistor to Transistor Logic
<b><i>TTY</i></b>	Teletypewriter (also known as TDD)
<b><i>TVSS</i></b>	Transient Voltage Surge Suppression
<b><i>UTC</i></b>	Universal Coordinated Time (the French translation of Coordinated Universal Time)
<b><i>UL</i></b>	Underwriters Laboratories
<b><i>UPS</i></b>	Uninterruptible Power Supply
<b><i>USNO</i></b>	United States Naval Observatory
<b><i>USTA</i></b>	United States Telephone Association
<b><i>VCO</i></b>	Voice Carry Over