

9-1-1 Glossary of Terms

- 9-1-1** A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.
- 9-1-1 Network** Literally, the dedicated circuits, and switching components used to transport voice from the originating central office, PBX, or other equivalent point to the 9-1-1 controller unit at the PSAP.
- 9-1-1 Service** The delivery of 9-1-1 dialed calls from the originating switch to the PSAP call taker, with associated delivery of ANI and ALI data.
- 9-1-1 System** The set of network, database and CPE components required to provide 9-1-1 service.
- ALI** **Automatic Location Identification** The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone and supplementary emergency services information.
- ANI** **Automatic Number Identification** Telephone number associated with the access line from which a call originates.
- Analog** As applied to 9-1-1, call transport using signaling involving a physical change, such as voltage or frequency. Analog trunking using multi-frequency tones (MF).
- APCO** **Association of Public Safety Communications Officials** The Association of Public Safety Communications Officials – International, Inc. is a not-for-profit professional organization dedicated to the enhancement of public safety communications. APCO exists to serve the people who manage, operate, maintain and supply the communications systems.
- AR** **Alternate Routing** A standard feature provided to allow E9-1-1 calls to be routed to a designated alternate location if **(1)** all E9-1-1 exchange lines to the primary PSAP are busy, or **(2)** the primary PSAP is closed down for a period of time (night service).
- ACN** **Automatic Collision Notification** A service provided by vendors such as OnStar and ATX that allows sensors in vehicles to automatically initiate a call to a central answering point upon specific levels of vehicle impact, air bag deployment, etc.
- Basic 9-1-1** 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.
- CAS** **Call Associated Signaling** Allows for the device position or location information to be delivered to the emergency services network in the call signaling as part of the call set-up information. With CAS, the originating network pushes the position information to an Emergency Services Network Entity (ESNE).
- CTIA** **Cellular Telecommunications and Internet Association** The Cellular Telecommunications and Internet Association is the international organization that represents all elements of wireless communication – cellular, personal communication services, enhanced specialized mobile radio, and mobile satellite services – serving the interests of service providers, manufacturers, and others.
- CMRS** **Commercial Mobile Radio Service** Includes all of the following:
- 1) A wireless 2-way communication device, including a radio telephone used in cellular telephone service or personal communication service.
 - 2) A functional equivalent of a radio telephone communications line used in cellular telephone service or personal communication service.
 - 3) A network radio access line.
- CMRS Connection** Each number assigned to a CMRS customer.

Company Identifier (Company ID) A 3 to 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 database.

Consolidated Dispatch A countywide or regional emergency dispatch service that provides dispatch service for 75% or more of the law enforcement, fire fighting, emergency medical service, and other emergency service agencies within the geographical area of a 9-1-1 service district or serves 75% or more of the population within a 9-1-1 service district.

CBN **Callback Number** The VoIP subscriber's telephone number.

CRN **Contingency Routing Number** A 10-digit, 7x24 PSAP emergency telephone number. Used for fallback routing if a call cannot be routed through the selective router to the PSAP.

Database An organized collection of information, typically stored in computer systems, comprised of fields, records (data) and indexes. In 9-1-1, such databases include master street address guide (MSAG), telephone number/emergency service number (ESN), and telephone customer records.

Database Service Provider A service supplier who maintains and supplies or contracts to maintain and supply an ALI database or a MSAG.

Dedicated Trunk A telephone circuit used for a single purpose such as transmission of 9-1-1 calls.

DR **Default Routing** 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

ECRF **Emergency Call Routing Function** A functional element in an ESInet which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller's location or towards a responder agency.

EMS **Emergency Medical Service** The emergency medical response group established under the Emergency Medical Systems Act of 1972.

ENP **Emergency Number Professional** A certification program for telecommunicators to encourage professional growth, promote a standard of competence, ensure and awareness of current issues in the 91-1-1 field and provide formal recognition of individuals for professional achievement.

ESN **Emergency Service Number** A number defining the primary PSAP and up to 5 secondary PSAPs serving a particular telephone number. It is used in conjunction with the selective routing feature of E9-1-1 service.

ESZ **Emergency Service Zone** The designation assigned by a county to each street name and address range that identifies which emergency response service is responsible for responding to an exchange access facility's premises.

Emergency Telephone Charge Emergency telephone operation charge and emergency telephone technical charge.

Emergency Telephone District The area in which 9-1-1 service is provided or is planned to be provided to service users under a 9-1-1 system implemented under this act. Also referred to as "9-1-1 service district."

Emergency Telephone District Board The governing body created by the board of commissioners of the county or counties with authority over an emergency telephone district.

Emergency Telephone Operation Charge A charge for non network technical equipment and other costs directly related to the dispatch facility and the operation of 1 or more PSAPs including, but not limited to, the costs of dispatch personnel and radio equipment necessary to provide 2-way communication between PSAPs and a public safety agency. Emergency telephone operation charge does not include non-PSAP related costs such as response vehicles and other personnel.

ETSC Emergency Telephone Service Committee A committee created within the department of state police to develop statewide standards and model system considerations and make other recommendations for emergency telephone services. (See updated information under “SNC” on page 6.)

Emergency Telephone Technical Charge A charge for the network start-up costs, customer notification costs, billing costs including an allowance for uncollectibles for technical and operation charges, and network nonrecurring and recurring installation, maintenance, service, and equipment charges of a service supplier providing 9-1-1 service under this act.

E9-1-1 Enhanced 9-1-1 An emergency telephone system which includes network switching, database and CPE elements capable of providing Selective Routing, Selective Transfer, Fixed Transfer, ANI and ALI.

ESGW Emergency Services Gateway A component, residing in the VoIP service provider’s network, Responsible or integrating the SIP network with the emergency services network and routing 9-1-1 calls to the appropriate selective router, based on the ESRN/ESQK it receives from the regional call server on the 9-1-1 call server.

ESME Emergency Services Message Entity The ESME routes and processes the out-of-band messages related to emergency calls. This functionality is sometimes incorporated into the ALI database engine of a selective router.

ESNE Emergency Services Network Entity The ESNE routes and processes the voice band portion of the emergency call. The ESNE is composed of selective routers, which are also known as routing, bridging and transfer switches.

ESQK Emergency Services Query Key A digit string that uniquely identifies an ongoing emergency services call and is used to correlate the emergency services call with the associated data messages. It may also identify an emergency services zone and may be used to route the call through the network. Similar to an ESRK in wireless E9-1-1 networks.

ESRN Emergency Services Routing Number A 10-digit number that specifies the selective router to be used to route a call.

Final 9-1-1 Service Plan A tentative 9-1-1 service plan that has been modified only to reflect necessary changes resulting from any exclusions of public agencies from the 9-1-1 service district of the tentative 9-1-1 service plan under section 306 and any failure of public safety agencies to be designated as PSAPs or secondary PSAPs under section 307.

First Responder Police, fire or medial resource who is dispatched to handle 9-1-1 calls and deliver emergency services.

GIS Geographical Informational System A computer software system that enables one to visualize geographic aspects of a body of data. It contains the ability to translate implicit geographic data (such as street address) into an explicit map location. It has the ability to query and analyze data in order to receive the results in the form of a map. It also can be sued to graphically display coordinates on a map i.e. Latitude/Longitude from a wireless 9-1-1 call.

HCAS Hybrid CAS A combination of CAS (Call Associated Signaling) and NCAS (Non Call Associated Signaling).

Hypertext Link A way to connect two Internet resources via a simple word or phrase on which a user can click to start the connection, and easily access cross-references.

- ISDN** **Integrated Services Digital Network** A digital interface providing multiple channels for simultaneous functions between the network and CPE.
- Internet Protocol Telephony** Blending of voice, data, and video using Internet Protocol for each, across the Internet or other existing IP-based LANs and WANs, effectively collapsing three previously separate networks into one.
- I2** **NENA Defined VoIP Solution** I2 routes VoIP calls into the current E9-1-1 systems and to the correct PSAP with correct ANI and ALI. I2 accommodates both stationary and nomadic users and provides MSAG valid location information and provides a method for nomadic user location either through an automated process or user input via a service prompted web based form or equivalent. Intended migratory path from i1.
- I3** **NENA Defined VoIP Phase E9-1-1 Solution** Also referred to as Long Term, Next Generation 9-1-1. enables end to end IP based E9-1-1 design, supporting VoIP originated call delivery and the transition of current wireline and wireless service providers to IP interface technology. Support IP mobility users, and all capabilities of I2. Utilizes extended capabilities of IP to provide location and other information with the call, as well as other sub-sets of relevant.
- Lat/Lon** **Latitude and Longitude** Latitude and Longitude are a coordinate system by means of which the position or location of any place on the earth's surface can be described. Also known as x,y.
- LEC** **Local Exchange Carrier** A Telecommunications Carrier (TC) under the state/local Public Utilities Act that provide local exchange telecommunications services. Also know as Incumbent Local Exchange Carriers (ILECs), Alternate Local Exchange Carriers (ALECs), Competitive Local Exchange Carriers (CLECs), Competitive Access Providers (CAPs), and Local Service Providers (LSPs)
- LIS** **Location Information Server** A Location Information Server (LIS) is a functional entity that provides locations of endpoints. A LIS can provide Location-by-Reference, or Location-by-Value, and, if the latter, in geo or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint. In either case, the LIS receives a unique identifier that represents the endpoint, for example an IP address, circuit-ID or MAC address, and returns the location (value or reference) associated with that identifier. The LIS is also the entity that provides the dereferencing service, exchanging a location reference for a location value.
- LNP** **Local Number Portability** A process by which a telephone number may be reassigned from one Local Exchange Carrier to another.
- LoST** **Location to Service Translation** A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG9-1-1, used as the protocol for the ECRF and LVF.
- LRO** **Last Routing Option** Routing information sent by the VPC that provides a "last chance" destination for a call, for example the CRN or a routing number associated with a national call center.
- MCDA** **Michigan Communication Directors Association** An organization for Public Safety Managers and Directors to support the development and management of their Public Safety Communications Centers.
- MLTS** **Multi-Line Telephone System** A system comprised of common control unit(s), telephone sets, control hardware and software and adjunct systems used to support the capabilities outlined herein. This includes network and premises based systems. E.g., Centrex, VoIP, as well as PBX, Hybrid, and Key Telephone Systems (as classified by the FCC under Part 68 Requirements) and includes systems owned or leased by governmental agencies and non-profit entities, as well as for profit businesses.
- MSAG** **Master Street Address Guide** A perpetual database that contains information continuously provided by a service district that defines the geographic area of the service district and includes an alphabetical list of street names, the range of address numbers on each street, the names of each community in the service district, the emergency service zone of each service user, and the primary service answering point identification codes.

Mobile Subscriber A subscriber who uses a wireless device that can be in motion during the call. Wireless Fidelity (WiFi) VoIP is expected to eventually allow the end user to take a home-based telephony connection and roam within an interconnected wireless network, much as cellular technologies allow today.

NASNA National Association of State Nine One One Administrators The National Association of State Nine One One Administrators is a not-for-profit corporation of full time state 9-1-1 coordinators whose primary responsibility is to administer 9-1-1 programs in their respective states. NASNA members review public policy issues, federal regulations, technology issues and funding mechanisms that impact 9-1-1 delivery.

NENA National Emergency Number Association 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.

NCAS Non Call Associated Signaling A method for delivery of wireless 9-1-1 calls in which the Mobile Directory Number and other call associated data are passed from the Mobile Switching Center to the PSAP outside the voice path.

Nomadic Subscriber A subscriber who uses a device that is static during a call but does not have a static IP address assigned to it. Nomadic subscribers use Internet Service Provider (ISP) VoIP, which allows the end user to establish a telecommunications connection wherever he or she can obtain an Internet-based connection to her ISP provider.

NG9-1-1 Next Generation 9-1-1 NG9-1-1 is an IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provide additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations.

NOC Network Operations Center A location from which the operation of a network or internet is monitored. Additionally, this center usually serves as a clearinghouse for connectivity problems and efforts to resolve those problems.

PBX Private Branch Exchange A smaller version of the phone company central switching office, usually privately owned by a non-telephone business. A PBX connects to the larger telephone network for external call handling, and usually requires dialing an access digit such as 9 or 8 to make an external call.

Phase I Wireless E9-1-1 Service Dispatch center receives call back number of the wireless phone used to dial 9-1-1 and the location of the cell site used to handle the call.

Phase II Wireless E9-1-1 Service Dispatch center receives specific location information of the wireless caller dialing 9-1-1, within parameters set by the Federal Communications Commission.

Primary PSAP A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. (See PSAP below.)

Public Safety Agency An entity that provides fire fighting, law enforcement, emergency medical, or other emergency service.

PSAP Public Safety Answering Point 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.

PSTN Public Switched Telephone Network The international telephone system based on copper wires carrying analog voice data.

Redundancy Duplication of components, running in parallel, to increase reliability.

Relay Method A PSAP notes pertinent information and relays it by telephone, radio, or private line to the appropriate public safety agency or other provider of emergency services that has an available emergency service unit located closest to the request for emergency service for dispatch of an emergency service unit.

Secondary PSAP Answering Point A communications facility of a public safety agency or private safety entity that receives 9-1-1 calls by the transfer method only and generally serves as a centralized location for a particular type of emergency call.

SIP **Session Initiation Protocol** SIP is the IP-based protocol defined in IETF RFCs 3261 and 2543. SIP is one of the two dominant messaging protocols used by the VoIP industry.

SNC **State 9-1-1 Committee** Effective at its June 24, 2008 meeting, the Emergency Telephone Service Committee changed its name to reflect current systems and technology. Its original creation and purpose remains the same.

SR **Selective Routing** The routing of a 9-1-1 call to the proper PSAP based upon the location of the caller.

Selective Router The node in the emergency services network that performs enhances call routing for 9-1-1 calls. Usually operated by the LEC.

Service Provider An entity providing one or more of the following 9-1-1 elements: network, CPE, or database service.

Service Supplier A person providing a telephone service or a CMRS to a service user in this state.

Service User An exchange access facility or CMRS service customer of a service supplier within a 9-1-1 system.

SS7/ CCS7 **Signaling System 7 (SS7)/Common Channel Signaling (CCS7)** 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.)

Static Subscriber A subscriber who uses a device that is static during a call and has a static IP address assigned to it. Static subscribers use cable and DSL VoIP, often deployed in static configurations in which the end user stays at a fixed location and uses the standard North American Numbering Plan. Examples of this service include residential landline replacements using cable or DSL connections.

Switch Telephone company facility where subscriber lines or interswitch trunks are joined to switching equipment for connecting subscribers to each other, locally or long distance.

(911) System Service Provider The entity that manages, maintains and provides various 9-1-1 elements such as ALI database, MSAG to Public Safety Answering Points. This function is often performed by the LEC.

Tariff The rate approved by the Public Service Commission for 9-1-1 service provided by a particular service supplier. Tariff does not include a rate of a commercial mobile radio service by a particular supplier.

Telecommunicator 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.

Tentative 9-1-1 Service Plan A plan prepared by 1 or more counties for implementing a 9-1-1 system in a specified 9-1-1 service district.

Transfer Method A PSAP transfer the 9-1-1 call directly to the appropriate public safety agency or other provider of emergency service that has an available emergency service unit located closest to the request for emergency service for dispatch of an emergency service unit.

Trunk Typically, a communication path between central office switches, or between the 9-1-1 Control Office and the PSAP.

Universal Emergency Number Service Public telephone service that provides service users with the ability to reach a public safety answering point by dialing the digits “9-1-1.” Also referred to as “9-1-1 Service.”

Universal Emergency Number Service System A system for providing 9-1-1 service under P.A. 80 of 1999. Also referred to as “9-1-1 System.”

V-E2 **An extension to the E2 ALI interface (specified in TIA J-STD-036)** V-E2 is defined by the NENA VoIP Location Working Group. V-E2 provides support for a “VoIP” class-of-service indicator in the response message from the VPC to the ALI.

VoIP **Voice Over Internet Protocol** VoIP is a system for providing telephone service over the internet.

VoIP Provider A generic term to describe a company that provides VoIP call services. Some VoIP providers provide direct service to the consumer (VoIP service providers). Others provide backbone and PSTN access services (VoIP carriers). Still others provide ESGW (ESGW operators). Some VoIP providers provide more than one of these Services

VPC **VoIP Positioning Center** The application that determines the appropriate PSAP, based on the VoIP subscriber’s position, returns associated routing instructions to the VoIP network, and provides the caller’s location and the callback number to the PSAP through the ALI.

Wireless A phone system that operates locally without wires, using radio links for call transport.

Wireless Emergency Service Order The order of the Federal Communications Commission. FCC docket No. 94-102, adopted June 12, 1996, with an effective date of October 1, 1996.

Wireless Phase I Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rule making (NPRM) 94-102. The delivery of a wireless 9-1-1 call with callback number and identification of the cell-sector from which the call originated. Call routing is determined by cell-sector. (Target date April 1998.)

Wireless Phase II Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rule making (NPRM) 94-102. The delivery of a wireless 9-1-1 call with Phase I requirements plus location of the caller within 100 meters 67% of the time for network-based caller location systems and within 50 meters 67% of the time for handset-based location systems. (Target start date October 2001.)

Wireless Telecommunications 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).

Wireline The transmission of speech or data using wired connections.