

Glossary of Technical Terms: Wireless E 9-1-1

Supplement to Haller, Colin, "Wireless E 9-1-1," *IQ Report* 36 no. 3 (Washington, D.C.: ICMA, 2004)

9-1-1

A dialing code to facilitate the reporting of an emergency requiring response by a public safety agency.

9-1-1 Service Area

The geographic area that has been granted authority by a state or local governmental body to provide 9-1-1 service.

9-1-1 System

The set of network, database, and CPE components required to provide 9-1-1 service.

ALI Retrieval

A request for ALI record from the PSAP to the ALI database.

Alternate PSAP

A PSAP designated to receive calls when the primary PSAP is unable to do so.

Alternate Routing

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.

Automatic Location Identification (ALI)

The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone, and supplementary emergency services information.

Automatic Location Identification (ALI) Database

The set of ALI records residing on a computer system.

Automatic Location Identification (ALI) Retrieval

The process of querying the 9-1-1 database for ALI records.

Automatic Number Identification (ANI)

Telephone number associated with the access line from which a call originates.

Automatic Number Identification (ANI) Controller

A stand-alone CPE component which provides the ANI decoding and function key control for 9-1-1 service.

Backup Public Safety Answering Point (PSAP)

Typically a disaster recovery answering point that serves as a backup to the primary PSAP and is not colocated with the primary PSAP.

Basic 9-1-1

An emergency telephone system that 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.

Callback

The capability to recontact the calling party

Callback Number

A number used by the PSAP to recontact the location from which the 9-1-1 call was placed. The number may or may not be the number of the station used to originate the 9-1-1 call.

Call Delivery

The capability to route a 9-1-1 call to the designated selective router for ultimate delivery to the designated PSAP for the caller's ANI/KEY.

Callpath-Associated Signaling (CAS)

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 via the voice path.

Call Routing

The capability to selectively route the 9-1-1 call to the appropriate PSAP.

Cell

The wireless telecommunications (cellular or PCS) antenna serving a specific geographic area.

Cellular Priority Access Service (CPAS)

A uniform nationwide method of providing priority access to authorized wireless subscribers in the event of an emergency.

Central Office (CO)

The local exchange carrier facility where access lines are connected to switching equipment for connection to the public switched telephone network.

Central Office (CO) Transfer

A service provided by the central office that allows an established call to be transferred to another location.

Centralized Automated Message Accounting (CAMA)

A type of in-band analog transmission protocol that transmits telephone number via multifrequency encoding. Originally designed for billing purposes.

Computer-Aided Dispatch (CAD)

A computer-based system that aids PSAP telecommunicators by automating selected dispatching and record-keeping activities.

Consolidated PSAP

A facility where one or more public safety agencies choose to operate as a single 9-1-1 entity.

Customer Premises Equipment (CPE)

Communications or terminal equipment located in the customer's facilities; terminal equipment at a PSAP.

Dedicated Trunk

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

Emergency Service (ES) Trunks

Message trunks capable of providing ANI, connecting the serving central office of the 9-1-1 calling party and the designated E 9-1-1 control office.

Enhanced 9-1-1 (E 9-1-1)

An emergency telephone system that includes network switching, database, and CPE elements capable of providing selective routing, selective transfer, fixed transfer, caller routing and location information, and ALI.

Enhanced 9-1-1 (E 9-1-1) Control Office

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.

Enhanced 9-1-1 (E 9-1-1) Tandem Office

See "E 9-1-1 control office."

ESN

Emergency service number.

Exchange Carrier (ILEC)

Initial local exchange carrier; a telephone company that had the initial telephone company franchise in an area.

Geographic Information System (GIS)

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 a 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 used to graphically display coordinates on a map (i.e., latitude and longitude coordinates) from a wireless 9-1-1 call.

Global Positioning System (GPS)

A satellite-based location determination technology (LDT).

Grade of Service

The probability, expressed as a decimal fraction, of a telephone call being blocked. P.01 is the grade of service reflecting the probability that one of every one hundred calls during the average busy hour will be blocked. P.01 is the minimum recommended grade of service for 9-1-1 trunk groups.

Intelligent Workstation (IWS)

Computer-based 9-1-1 answering position equipment that includes computer telephony integration.

Interlocal Services Agreement

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.

Landline

Colloquial term for the public switched telephone network access via an actual copper or fiberoptic transmission line that travels underground or on telephone poles. Used to differentiate the “wireless” connectivity of a cellular or PCS system.

Local Exchange Carrier (LEC)

A telecommunications carrier under the state/local public utilities act that provides 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).

Location Determination Technology (LDT)

A system that computes the *x* and *y* coordinates of a wireless 9-1-1 caller. See “global positioning system.”

Mobile Switching Center (MSC)

The central office that controls the entire operation of a cellular system. These computers monitor all cellular calls, track the location of all cellular-equipped vehicles traveling in the system, arrange handoffs, keep track of billing information, etc.

Network Reliability Council

An FCC 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.

Non-Callpath-Associated Signaling (NCAS)

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.

PCS

Personal communications services.

Pseudo Automatic Location Identification (pALI)

An ALI record associated with a pseudo ANI, configured to provide the location of the wireless cell or sector and information about its coverage or serving area (footprint).

Pseudo Automatic Number Identification (pANI)

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 a routing number.

Public Agency

A state or any unit of local government or special purpose district located in whole or in part within a state that provides police, fire-fighting, medical, or other emergency services or has the authority to do so.

Public Safety Agency

An entity that provides fire fighting, law enforcement, emergency, medical, or other emergency services.

Public Safety Answering Point (PSAP)

A facility equipped and staffed to receive 9-1-1 calls.

Router

An interface device between two networks that selects the best route to complete the call even if there are several networks between the originating network and the destination.

Secondary PSAP

A PSAP to which 9-1-1 calls are transferred from a primary PSAP.

Selective Routing (SR)

The routing of a 9-1-1 call to the proper PSAP based on the location of the caller. Selective routing is controlled by the ESN, which is derived from the customer location.

Selective Transfer

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.

Service Address

The physical location of a subscriber access line. Service address is the recommended address for 9-1-1 use and may be different from the listed address or billing address.

Service Level Agreement (SLA)

A contract between a service provider and the end user that stipulates and commits the service provider to a required level of service.

Trunk

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

Trunk Group

One or more trunks terminated at the same two points.

Wireless

Any commercial mobile radio service (CMRS) that falls under the FCC's Docket 94-102 requirement for wireless enhanced 9-1-1 service.

Wireless Phase I

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 callback number and identification of the cell tower from which the call originated. Call routing is usually determined by cell sector.

Wireless Phase II

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 percent of the time and selective routing based on those coordinates. Subsequent FCC rulings have redefined the accuracy requirements.

Wireless Service Provider (WSP)

Cellular, satellite, or other radio-based telephony or data transport commercial entity.

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 radios (ESMRs).