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Ms. Ann Cole, Director
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Re: Docket No. 070736-TP

Dear Ms. Cole:

Enclosed for filing on behalf of Intrado Communications Inc. are an original and 15 copies of Exhibit No. CC-2 to be attached to the Direct Testimony of Cynthia Clugy and Exhibit Nos. CSL-2 and CSL-4 to be attached to the Direct Testimony of Carey F. Spence- Lenss that was filed on April 21, 2008 in this docket. These exhibits were inadvertently omitted. I apologize for any inconvenience this may have caused.

Please acknowledge receipt of this letter by stamping the extra copy of this letter "filed" and returning the same to me.

Thank you for your assistance with this filing.

Sincerely yours,

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cc: Rebecca Ballesteros, Esq.
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NENA

Master Glossary

Of

9-1-1 Terminology



NENA-00-001, Version 10, June 5, 2007
NENA Master Glossary of 9-1-1 Terminology

Prepared by:
National Emergency Number Association (NENA) Committee Chairs

Published by NENA
Printed in USA



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NENA STANDARDS

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It is possible that certain advances in technology or operations will precede these revisions. Therefore, this NENA STANDARD should not be the only source of information used. **NENA** members are advised to contact their Telecommunications Carrier representative to ensure compatibility with the 9-1-1 network.

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NENA has developed this document. Suggestions for change to this document may be submitted to:

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Acknowledgments:

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1 Executive Overview

1.1 Purpose and Scope of Document

This “NENA Master Glossary of 9-1-1 Terminology” document is a guide for readers of NENA publications and tool for members of the NENA committees that prepare them. It defines the terms, acronyms and definitions associated with the 9-1-1 industry. Intended users of this document are any person needing NENA’s definition/description of a 9-1-1 related term.

1.2 Benefits

Use of this “NENA Master Glossary of 9-1-1 Terminology” will:

- provide a consistent definition for all definitions and acronyms identified with NENA Standards documents produced by the NENA Committees
- reduce the work required to establish definitions for consistently utilized terms and acronyms

1.3 Reason for Issue

This document is issued to provide a NENA perspective for Terms, Acronyms and Definitions associated with the 9-1-1 industry.

1.4 Reason for Reissue

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

March 1998, Version 1, Original

October 2002, Version 2; Updated to include new terms utilized within NENA standards documents and to adjust existing definitions to comply with technology improvements.

February 2003, Version 3; Updated to include new terms utilized in revised 02-011 standard document and new 06-002, 06-003 standard documents.

October 2004, Version 4; Updated to include new/revised terms utilized in the following documents:

- 03-501 Network Quality Assurance;
- 03-502 Trunking for Private Switch 9-1-1 Service; Future 9-1-1 Models TID;
- 05-001 Implementation of the Wireless Emergency Service Protocol E2 Interface;
- 05-501 SS7 guidelines for MSC to Selective Router Connectivity;
- 07-501 E9-1-1 and Emerging Technologies.

February 2005, Version 5; Updated to reflect Operations Committees input and use of this document as well as Technical Committees.

November 2005, Version 6; Updated to include terms and acronyms utilized in the following documents:

- 03-503 SS7 Guidelines for Wireline and VoIP Emergency Services Gateway Interconnection to 9-1-1 Selective Routers TID;
- 03-504 PSAP Callback to all 9-1-1 Callers, Combating Wireless E9-1-1 Fraud and Mobile Emergency Services (E9-1-1M) TID,
- 52-002 Managers Guide to Title II: Direct Access,
- 53-002 Mutual Aid Standard/Model Recommendation,
- 54-501 Human Resources Sub-Committee Resource List OID,
- 56-502 Minimum Standards for Emergency Telephone Notification Systems,
- 56-502 Milepost OID.

April 2006, Version 7; This update changes the document number for the NENA Master Glossary of 9-1-1 Terminology from **01-002 to 00-001**. The number change moves the document to the General Administrative section of NENA Standards utilized for standards that are applicable to all Committees.

Update includes terms and acronyms utilized in the following documents:

- 08-001, Interim VoIP Architecture for Enhanced 9-1-1 Services (i2)
- 52-003, Call Taker Proficiency and Quality Assurance
- 02-502, Company ID Registration Service

November 2006, Version 8; Updated to include terms and acronyms utilized in the following documents:

- 02-501, Wireless (Pre-XML) Static and Dynamic ALI Data Content
- 03-503, Technical Information Document on Rate Center Consolidation
- 08-001, Interim VoIP Architecture for Enhanced 9-1-1 Services (i2) Definitions
- 08-504, VoIP Standards Development Organizations
- 54-002, Hearing Standards for Public Safety Telecommunicators
- 56-005, Call Answering Standard/Model Recommendation
- 56-503, Wide Area/Statewide Emergency Notification Systems

- 56-504, VoIP E9-1-1 Deployment and Operational Guidelines
- 58-502, VoIP Funding and Regulatory Issues

March 30, 2007 Version 9; Updated to include terms and acronyms utilized in the following documents:

- 02-013, NENA Data Standards for the Provisioning & Maintenance of MSAG Files to VDBs & ERDBs
- 02-503, NENA Technical Information Document on XML Namespaces
- 03-002, NENA Standard for the Implementation of Enhanced MF Signaling, E9-1-1 Tandem to PSAP
- 03-505, NENA Technical Information Document on Rate Center Consolidation Technical Information Document
- 04-005 NENA ALI Query Service Standard
- 08-505, NENA VoIP Recommended Method(s) for Location Determination to Support IP-Based Emergency Services Technical Information Document
- 08-751, NENA i3 Technical Requirements Document
- 08-752, NENA Technical Requirements Document for Location Information to Support IP – Based Emergency Services
- 53-501, NENA Hazard and Vulnerability Analysis Operation Information Document
- 53-502, NENA Resources Analysis Operations Information Document

June 5, 2007 Version 10; Updated to include terms and acronyms utilized in the following documents:

- General 9-1-1 & VoIP terms and definitions
- 03-506, NENA E9-1-1 Voice Circuits Requirements Document
- 04-002, NENA PSAP Master Clock Standard
- 07-504, NENA Automatic Collision Notification and Vehicle Telematics Technical Information Document
- 53-503, NENA PSAP Survivability Operations Information Document
- 56-505, Guidelines for Handling Call Regarding Missing and Exploited Children Operations Information Document
- 57-002, NENA Wireless Maintenance Call Routing and Testing Verification Standard

- 58-001, NENA IP Capable PSAP Minimum Operational Requirements Standard

1.5 References

NENA Standards are registered 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:

xx 00 represents General Administrative Documents

xx 01-25 represents Technical Committee Documents

01 for Technical Standards Administration

02 for Technical Data Documents

03 for Technical Network Documents

04 for Technical PSAP-CPE Documents

05 for Technical Wireless Documents

06 for Technical ALEC and Private Switch Documents

07 for Technical Non Traditional Communication Documents

08 for Technical VoIP/Packet Documents

yyy 501-599 represents Technical Information Documents

yyy 750-999 represents Technical Reference Documents

xx 51-99 represents Operations Committee Documents

51 for Operations Standards Administration

52 for Operations Accessibility Documents

53 for Operations Contingency Planning Documents

54 for Operations Human Resources Documents

55 for Operations Public Education Documents

56 for Operations Standard Operating Procedures Documents

57 for Operations PSAP Service Integration (formerly Wireless Implementation Documents)

58 for Operations VoIP Operations Documents

yyy 501-599 represents Operations Information Documents

NENA Standards Documents are available on the NENA WEB Site: www.nena.org



2 Terms/Definitions

<i>Term</i>	<i>Definition</i>
1A2	A designation for Key Telephone Systems which utilize an "A" lead for control.
3GPP	The 3rd Generation Partnership Project (3GPP) is a collaboration agreement that was established in December 1998. The collaboration agreement brings together a number of telecommunications standards bodies which are known as "Organizational Partners".
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 Administrator	The administrative jurisdiction of a particular 9-1-1 system. This could be a county/parish or city government, a special 9-1-1 or Emergency Communications District, a Council of Governments, an individual PSAP or other similar body.
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, data base and CPE components required to provide 9-1-1 service.
9-1-1 Tandem	(see Enhanced 9-1-1 Control Office)
"A" Lead Control	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.
Abandoned Call	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.
Access Infrastructure Provider (AIP)	The entity providing physical communications access to the subscriber. This access may be provided over telco wire, CATV cable, wireless or other media. Usually, this term is applied to purveyors of broadband internet access but is not exclusive to them.
Access Line	The connection between a customer premises network interface and the Local Exchange Carrier that provides access to the Public Switched Telephone Network (PSTN).
Access Location Entity (ALE)	A network entity or function that provides network measurements to a LIS allowing the LIS to correlate a device with a physical location.
Access Provider	An access provider is any organization that arranges for an individual or an organization to have access to the Internet.
Acoustic Coupler	The rubber cups, which hold the telephone handset on the TTY.

Term	Definition
Administrative (ESN)	A 3-5 digit number that represents an ESZ. It is stored in the MSAG and is returned from an ALI query. The Administrative ESN facilitates dispatching of the proper emergency service agency(ies). An Administrative ESN is assigned to each MSAG range to associate the physical addresses to an ESZ. It is used to display English Language Translations (ELT) and may be used by CPE to transfer calls to the correct responder. An Administrative ESN may not be the same as a routing ESN (Refer to Routing ESN)
Advanced Mobile Phone Service (AMPS)	The analog radio interface utilized in cellular telephone systems.
Alarm Dry Contacts	A set of relay contacts which are caused to either open or close when an alarm condition occurs. (Ref. NENA 04-001)
ALI Retrieval	A request for ALI record from the PSAP to the ALI data base.
ALI Retrieval Rate	The number of requests for ALI that are not duplicated within a two (2) minute time frame.
All Circuits Busy (ACB)	A telephone line state that informs the caller that all available telephone lines are in use.
Alliance for Telecommunications Industry Solutions (ATIS)	A U.S.-based organization that is committed to rapidly developing and promoting technical and operations standards for the communications and related information technologies industry worldwide using a pragmatic, flexible and open approach. Please refer to: http://www.atis.org/
Alternate Address Record	An Alternate Address record may be the Postal equivalent to the MSAG or it may be any other alternate address required (i.e. an alias street name – John Carpenter Freeway vs. Highway 121).
Alternate Emergency Access Number (AEAN)	A 10-digit unlisted number, answered on a 24/7 basis, used to receive VoIP calls until these calls can be delivered to the selective router serving the PSAP. After E9-1-1 implementation, these lines should only be used for specific routing circumstances (as defined in NENA VoIP Deployment and Operational Guidelines OID, 56-504, section 3.7.3 Default, Overflow and Alternate Routing). It can also be utilized to receive misrouted calls from other PSAPs not within the selective routing service area, operator-assisted emergency calls, default-routed wireless calls, calls routed to the PSAP via private call centers, and calls relayed from telecommunications relay services. Caller identification should be included as an option.
Alternate ISDN PSAP	(see Alternate Public Safety Answering Point)
Alternate Number	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.
Alternate PSAP	A PSAP designated to receive calls when the primary PSAP is unable to do so.



Term	Definition
Alternate Routing	The capability of routing 9-1-1 calls to a designated alternate location(s) if all 9-1-1 trunks 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.
Alternative Local Exchange Carrier (ALEC)	(See Local Exchange Carrier (LEC))
Alternative Methods of Notification	Having the ability to locate the emergency caller and initiate emergency response. The adequacy of alternative methods of notification and responding to emergencies would be determined by appropriate governmental authorities operating pursuant to applicable legal requirements.
Alternative Methods to Support Enhanced 9-1-1	Methods used by a MLTS Operator to permit a 9-1-1 emergency response team reasonable opportunity to quickly locate a caller as alternatives to the MLTS signaling needed to produce the automatic display of caller location information on the video terminal of the call-taker.
American National Standards Institute (ANSI)	Entity that coordinates the development and use of voluntary consensus standards in the United States and represents the needs and views of U.S. stakeholders in standardization forums around the globe. Please refer to: http://www.ansi.org/
American Sign Language	Language expressed through hands and body movements to express concepts rather than complete sentences. The grammatical structure is different than standard English.
American Standard Code for Information Interchange (ASCII)	A standard for defining codes for information exchange between equipment produced by different manufacturers. A code that follows the American Standard Code for Information Interchange.
Americans with Disability Act (ADA)	Federal Legislation passed into law July 26, 1990, that prohibits discrimination on the basis of disability.
Amplitude Modulated	The encoding of a carrier wave by variation of its amplitude in accordance with an input signal.
Analog Telephone Adapter (ATA)	An analog telephone adaptor (ATA) is a device used to connect a standard telephone to a computer or network so that the user can make calls over the Internet.
Angle of Arrival (AOA)	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.
Answering Position	(see Attendant Position)



Term	Definition
Answering Position Unit (APU)	A term used to define call-taking equipment.
Answering Positioning Unit (APU)	Answering Position Unit used to define call taking equipment.
Application Layer Security	Providing security to application layer protocols (HTTP, FTP, SMTP for example) through one of many methods that may include end-to-end privacy (PKE etc), message integrity, non repudiation, proof of submission etc
ArcNet	Multiplexed switching technology used to transport small fixed packets called "cells".
ASL Gloss	The reference to "ASL gloss" is when American Sign language is communicated through typing – as on a TTY – and many of the visual elements crucial to clear communications are lost.
Association of Radio Industries and Businesses (ARIB)	The objectives of ARIB are to conduct investigation, research & development and consultation of utilization of radio waves from the view of developing radio industries, and to promote realization and popularization of new radio systems in the field of telecommunications and broadcasting.
Asymmetrical Digital Subscriber Line (ADSL)	A Digital Subscriber Line, that transmits and receives at different speeds.(See Digital Subscriber Line)
Asynchronous Transfer Mode (ATM)	A link layer protocol that uses very small frames (53 bytes) and predetermined routes, which allows for efficient switching.
Asynchronous Transfer Mode (ATM) Adaptation Layer-AAL1, 2, 5	Used within an ATM network to convert the data from an end-user application into a form that fits into ATM cells [<i>the number relates to the applicable layer</i>]
Attendant Position	The Customer Premises Equipment (CPE) at which calls are answered and responded to by the Telecommunicator.
Authentication Process	The process of verifying the claimed identity of a session requester. Mutual authentication is important to ensure that both the originator of the session and the recipient of the request are both satisfied with the credential information being provided. Authentication mechanisms are needed in the i2 solution to ensure that only trusted entities with existing relationships will be provided access to E9-1-1 data and services.
Auto-Re-Addressing	Feature that allows for delivery of a voice call to the jack where the caller's device is currently connected after moving.



Term	Definition
Automatic Alarm and Automatic Alerting Device	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.)
Automatic Call Distributor (ACD)	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.
Automatic Collision Notification (I)	The process of identifying that a motor vehicle has been involved in a collision, collecting data from sensors in the vehicle, and communicating that data to a Call Center or PSAP.
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 of the location from which a call originates.
Automatic Location Identification (ALI) Call Retrieval	A process of counting ALI data base queries not duplicated within a two (2) minute time frame.
Automatic Location Identification (ALI) Customer Retrieval	A process of counting ALI data base queries not duplicated within a twenty-four (24) hour time frame.
Automatic Location Identification (ALI) Data Base	The set of ALI records residing on a computer system.
Automatic Location Identification (ALI) Discrepancy	An ALI Discrepancy is defined as a record being retrieved from ALI during an actual E9-1-1 call with incorrect address. For example, the house number or directional is wrong for the caller.
Automatic Location Identification (ALI) Multiplexer	A CPE component which performs the function of communicating with the ALI data base. An ALI Multiplexer typically works in conjunction with an ANI controller.
Automatic Location Identification (ALI) Operator	Operates the Automatic Location Identification infrastructure used to provide caller information associated with a pANI offered in a query from a PSAP.
Automatic Location Identification (ALI) Queries	The act of querying/retrieving the automatic display at the PSAP of the address/location of the telephone and supplementary emergency service information related to the caller's telephone number.
Automatic Location Identification (ALI) Retrieval	The process of querying the 9-1-1 data base for ALI records.
Automatic Number Identification (ANI)	Telephone number associated with the access line from which a call originates.



Term	Definition
Automatic Number Identification (ANI) Controller	A stand-alone CPE component which provides the ANI decoding and function key control for 9-1-1 service.
Automatic Number Identification Information Digits (ANI II Digits)	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.
Automatic Vehicle Location (AVL)	A means for determining the geographic location of a vehicle and transmitting this information to a point where it can be used.
Average Busy Hour	The 1-hour period during the week statistically shown over time to be the hour in which the most telephone calls are received.
Average Sector Radius Range	The average true sector radius under average operating conditions. Radius at which cell tower's polygon of coverage influence ends and another begins.
Backup Public Safety Answering Point (PSAP)	Typically a disaster recovery answering point which serves as a backup to the primary PSAP and is not co-located with the primary PSAP.
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.
Basic Rate Interface (BRI)	Interface by which ISDN terminals access the local switch that provides full-duplex ISDN basic rate access. The BRI is composed of two 64-kbps clear B channels for information (voice or data) transfer in either circuit or packet mode and one 16-kbps clear D channel for packet data information transfer and signaling communication with the Telco Switch.
Baseline MSAG	MSAG file that is a snapshot image which represents a complete, up-to-date set of MSAG data at the point in time it was created.
Baud Rate	A measure of signaling speed in data communications that specifies the maximum number of signaling elements that can be transmitted each second.
Baudot Code	A five-bit encoding scheme developed for Telex transmission that represents text, numerals, punctuation and control signals. It is the standard transmission signaling scheme used by TTY (TDD) devices. (per EIA PN-1663)
Bell Operating Company (BOC)	Individual local telephone companies which were part of the Bell System prior to divestiture of AT&T.
Binary Coded Decimal (BCD)	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)
Broadband Remote Access Server (BRAS)	A server that routes traffic to and from the digital subscriber line access multiplexers (DSLAM) on an Internet service providers (ISP) network.

Term	Definition
Building Unit Identifier (BUI)	A room number or equivalent designation of a portion of a structure/building.
Business Day	A 24 hour period of time beginning at midnight which is established by the Data Base Management System Providers' and/or Service Providers' hours of operation. Business days do not normally include Saturday and Sunday or any Provider's recognized holidays.
Busy Hour	The hour each day with the greatest call volume.
Busy Line Interrupt (BLI)	Ability of an operator in special circumstances or emergency situations to interrupt a conversation, if necessary at the request of a PSAP
Busy Line Verification (BLV)	An operator service whereby the operator checks a line to see if it is busy, off-hook, or whether some trouble has caused a false busy signal
Busy Tone	An audible signal indicating a call cannot be completed because the called access line is busy. The tone is applied 60 times per minute.
Cable Modem Termination System (CMTS)	The node used to control cable modems in a cable network system.
Cable TV/Telephony	Service that use hybrid coaxial/fiber network device to deliver voice grade communications.
Call Associated Signaling (CAS)	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 setup information. With CAS, the originating network pushes the position information to an Emergency Services Network Entity (ESNE).
Call Back	The capability to recontact the calling party
Call Back Number	A number used by the PSAP to re-contact 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 Check	(see Recall Recorder)
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.
Call Detail Logging	The process of recording incoming call data. Also known as ANI printout. (Ref. NENA 04-001)
Call Detail Record (CDR)	The data information sent to the ALI computer by a remote identifying device (PBX, Call Position Identifier, ...) (From 03-007)
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.



Term	Definition
Call Progress Signals	Audible cues to advise 9-1-1 callers of the status of their call. (e.g. Busy Tone, Reorder Tone)
Call Relay	Forwarding of pertinent information by a PSAP attendant to the appropriate response agency (Not to be confused with Telephone Relay Service).
Call Routing	The capability to selectively route the 9-1-1 call to the appropriate PSAP.
Call Sequencer	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.
Call Server	The term Call Server in the Interim VoIP Architecture For Enhanced 9-1-1 Services standard is used to refer to the entity in a private or public IP domain that provides service to endpoints in an emergency caller's home domain and that interworks with the SIP servers and other elements in the IP domain used to support emergency services call routing in the i2 solution. The Call Server may use SIP or some other VoIP signaling protocol within its own serving domain.
Call Set-up Time	The amount of time between when a caller dials the last one (1) in 9-1-1 and the call is presented to the appropriate PSAP.
Call Taker Position	(see Attendant Position)
Call Transfer	The capability to redirect a call to another party.
Callback Number	An identifier for an emergency caller that can be used by the PSAP to reach an emergency caller subsequent to the release of an emergency call. In the i2 solution, the Callback Number is an E.164 number, but may be represented in VoIP signaling by a uniform resource identifier (URI), for example.
Caller Hold	The capability of the PSAP to maintain control of a 9-1-1 caller's access line, even if the caller hangs up.
Calling Line Identification (CLID)	Signaling parameter that identifies the telephone number of the party placing a call.
Calling Party Hold	The capability of the PSAP to maintain control of a 9-1-1 caller's access line, even if the caller hangs up.
Calling Party's Number (CPN)	Typically a call back number associated with a wireless telephone. The CPN may also be the MDN, MIN, a temporary call back number, a tracking number or ID number and may not support call back in all cases.
Canadian Radio-television and Telecommunications Commission (CRTC)	Supervises and regulates broadcasting and telecommunications systems in Canada.
Carrier Frequency	The frequency of the unmodulated IRIG B or E signal.



Term	Definition
Case Number	Tracking number used to reference recorded incidents and events. Related nomenclature: Call Number, Report Number, Incident number, Report number.
Cathode Ray Tube (CRT)	Video monitor used for displaying information.
Cell	The wireless telecommunications (Cellular or PCS) antenna serving a specific geographic area.
Cell face	(see Cell Sector)
Cell Sector	One face of a cell antenna (typically 3-sided) that operates independently of the other sectors.
Cell Site	The location of a cell and related equipment.
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.
Central Processing Unit (CPU)	The part of a computer which performs the logical, computational and decision making functions.
Centralized Automated Message Accounting (CAMA)	A type of in-band analog transmission protocol that transmits telephone number via multi-frequency encoding. Originally designed for billing purposes.
Centrex	A business telephone service offered by some Local Exchange Carriers that provides PBX type features over access lines.
Centrex-based Internet Protocol (CTX-IP)	Telco voice service that provides Internet protocol based private automatic branch exchange or PABX-like features on all lines used by a single customer; the switching equipment is located at the central office and is operated and maintained by the Telco.
Channel Associated Signaling (CAS)	An option for the signaling channel (time slot 16) of an E1 interface; ITU G.704. Used on digital interfaces for signaling.
China Communications Standards Association (CCSA)	A nationally unified communications standards organization that can adapt the growing market, keep pace with global industry and accord with Chinese situations.
Circuit Route	The physical path between two terminal locations.



Term	Definition
Circuit-Switched Networks	Circuit-switched is a type of network in which a physical path is obtained for and dedicated to a single connection between two end-points in the network for the duration of the connection. Ordinary voice phone service is circuit-switched.
Civic Address	Any city-style address that includes a house number and a street name is considered a Civic Address. Civic Addresses include a community name that may or may not be recognized by the USPS or be MSAG valid. Civic Addresses may be used as Postal address if recognized by the USPS. Civic Addresses may be used as MSAG addresses if they are an exact match to the MSAG address. A rural route delivery address or FPO or APO address is not considered a Civic Address. See Civic Location.
Civic Location	A set of elements that describe detailed street address information. See Civic Address.
Civic To MSAG Translation	Translations consist of processes, tables or rules that can be used to: <ul style="list-style-type: none"> • Translate a Civic Address from/to an MSAG-format address. • Translate a Postal Address from/to an MSAG-format address. • Translate Landmark from/to an MSAG-format address (e.g. Empire State Building ---→ 350 5TH AVE). A civic address may need to be translated so that the data is consistent to the format within the existing PSAP equipment and processes (i.e., CAD, mapping, CPE).
Class of Service	A designation of the type of telephone service, e.g. residential, business, centrex, coin, PBX, wireless.
Client ID	An identifier for an instance of a Location Object (Geo Location, Civic Location or both) that is stored in a LIS.
Code Division Multiple Access (CDMA)	A digital radio interface utilized by some North American PCS carriers.



Term	Definition
CODEC (<i>Coder/DECoder or Compression/DECompression</i>)	<p>In communications engineering, the term <i>codec</i> is used in reference to integrated circuits, or chips that perform data conversion. In this context, the term is an acronym for “coder/decoder.” This type of codec combines analog-to-digital conversion and digital-to-analog conversion functions in a single chip. In personal and business computing applications, the most common use for such a device is in a modem.</p> <p>The term <i>codec</i> is also an acronym that stands for “compression/decompression.” A codec is an algorithm, or specialized computer program, that reduces the number of bytes consumed by large files and programs. In order to minimize the amount of storage space required for a complicated file, such as a video, compression is used. Compression works by eliminating redundancies in data. Compression can be done for any kind of file, including text, programs, images, audio, video, and virtual reality (VR). Compression can reduce the size of a file by a factor of 100 or more in some cases. For example, a 15-megabyte video might be reduced to 150 kilobytes. The uncompressed file would be far too large to download from the Web in a reasonable length of time, but the compressed file could usually be downloaded in a few seconds. For viewing, a <i>decompression</i> algorithm, which “undoes” the compression, would have to be used.</p>
Commercial Call Center	A privately operated call center, which answers emergency and/or non-emergency calls.
Common Language Location Identifier (CLLI)	An 11-character code assigned to a central office to designate the physical location and area served. Characters 1-4 designate the rate center location, characters 5-6 designate the state code, characters 7-8 identify the central office, and characters 9-11 specify the equipment type.
Communications Impaired	A person who is deaf, hearing impaired, or speech impaired that requires use of assistive telecommunications technology.
Communications Service Provider (CSP)	An entity that provides the services and signaling to support communication services for one or more endpoints. These services might include any combination of voice, video and/or data communications between users, or services provided by the CSP to an end user. The CSP may or may not be the provider of the access or transport network.
Company Identifier (ID) 1	A 3-5 character identifier, that distinguishes the entity providing voice service (e.g., Wireline, Wireless, VoIP, PBX, etc.) to the end user. The company identifier registry is maintained by NENA in a nationally accessible data base.
Company Identifier (ID) 2	(see Data Provider)



Term	Definition
Competitive Data Base Provider	A company that offers telephone subscriber data base services in competition to an Incumbent Local Exchange Carrier (ILEC). This company is usually an unregulated entity.
Competitive Local Exchange Carrier (CLEC)	(see Local Exchange Carrier (LEC))
Completion	Date and time stamp when Data Base Management System Provider's Data Rep has corrected and updated all ALI data bases.
Completion Date	Applies to the Service Provider's service order process date that does the physical disconnection of dial tone by the Donor Company and the physical connection of dial tone by the Recipient Company to an end user. The expectation is that the completion date should be the due date on the service order.
Computer Aided Dispatch (CAD)	A computer based system, which aids PSAP telecommunicators by automating selected dispatching and record keeping activities.
Computer Telephone Integration (CTI)	Integrating telephone function into a computing device.
Conference Transfer	The capability to bridge a third party onto an existing call. Also known as three-way calling.
Confidence/ Uncertainty	<p><u>Confidence</u>: The mathematically derived statistical estimate indicating how sure the measuring system is that the wireless Phase 2 location data estimate is accurate, within the bounds defined by the Uncertainty value. This is expressed as a percentage, such as 90%, or 45% etc. The specific value is not representative of the accuracy of the PDE locating system.</p> <p><u>Uncertainty</u>: The mathematically derived statistical estimate, expressed in meters, indicating the size of the area used in the calculation of Confidence. The specific value IS NOT representative of the accuracy of the PDE locating system.</p> <p><u>NOTE</u>: Because of the differences in the way that location vendors have implemented their technologies, the resulting Confidence & Uncertainty values cannot be viewed consistently across multiple carriers. Example (not indicative of any particular company): Wireless Service Provider "A" sends the following C&U 90%, 115 meters Wireless Service Provider "B" sends the following C&U 80%, 115 meters</p>
Consolidated PSAP	A facility where one or more Public Safety Agencies choose to operate as a single 9-1-1 entity.



Term	Definition
Constant Bit Rate (CBR)	A service class, where the bit rate is fixed, i.e., the traffic is not burst. Examples are voice and uncompressed video.
Contaminated Number Pooling	The practice of recovering full NPA-NXX's or thousands blocks of NPA-NXX's from Local Exchange Carriers who do not utilize the majority of numbers within the NXX block of 10,000 numbers. The unused numbers are assigned to other LECs. The numbers utilized within the pooled 1,000 blocks must be ported back to the LEC who is the Service Provider for the active numbers.
Contingency Routing Number (CRN)	A 24x7 PSAP emergency number, or a routing number associated with a national or default call center.
Continuity of Operations	The ability to continue operations during and after a major disaster.
Coordinate Based Routing	The process of using a Coordinate Routing Data Base (CRDB) to perform selective routing on a 9-1-1 call based on the X, Y coordinates from which the call originated. The X, Y coordinates respectively represent the longitude & latitude of a position. The CRDB provides a translation between a given position expressed in X, Y coordinates, to an Emergency Services Zone, by determining the ESZ in which the coordinates are located.
Credential Authority	An authority responsible for supporting the infrastructure to assign and revoke electronic digital certificates to i2 network entities.
Currency	Being fully trained, tested and up-to-date regarding a specific assignment. A measure of readiness.
Customer Comments	Supplementary information useful in dispatching, provided in conjunction with ALI displays.
Customer Premises Equipment (CPE)	Communications or terminal equipment located in the customer's facilities – Terminal equipment at a PSAP.
Cutover	The activation of a new telephone call processing or switching system.
Data Base	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.
Data Base Management System (DBMS)	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 E9-1-1 systems.
Data Base Management System Provider	Entity providing Selective Routing (SR) and/or Automatic Location Identification (ALI) data services.
Data Bit	A binary digit, either a zero (0) or a one (1).



Term	Definition
Data Bit Free Run	A binary digit, either zero (0) or a one (1). The operating condition of a clock in which the location oscillator is not locked to an external synchronization reference, and is using no storage techniques to sustain its operating frequency.
Data Communications Equipment (DCE)	The designation for RS-232 and EIA/TIA-574 serial communication devices such as modems. Data Communications Equipment (DCE) typically connects to Data Terminal Equipment (DTE).
Data Exchange	The process of exchanging 9-1-1 data between Service Providers and the Data Base Management System Provider.
Datagram	Nate Wilcox: "a self-contained, independent entity of data carrying sufficient information to be routed from the source to the destination computer without reliance on earlier exchanges between this source and destination computer and the transporting network."
Data Over Cable Service Interface Specifications (DOCSIS)	The name given to the specifications for residential cable Internet Access
Data Processing Day	The day in which processing of a given service order update occurs.
Data Provider	A 3-5 character identifier, that distinguishes the source of the ALI record information (e.g., service provider/reseller/private switch owner). A.K.A. Company Identifier (ID) 2.
Data Terminal Equipment (DTE)	The designation for RS-232 and EIA/TIA-574 serial terminal devices such as data terminals or PCs. Data Terminal Equipment (DTE) typically connects to Data Communications Equipment (DCE).
Deaf	Partially or completely lacking in the sense of hearing. When referencing the Deaf community, this refers to people who use American Sign Language as a primary means of communication.
Deaf-Blind	A term used to describe a person in whom hearing loss and vision impairment combine to interfere with his/her ability to function effectively in life. S/he may have either total or partial loss of both senses, or one or the other.
Decaying	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)



Term	Definition
Decibel	A unit for expressing the relative intensity of sounds on a scale from zero for the average least perceptible sound (near total silence) to about 130 for the average pain level. A sound 10 times more powerful than 0dB is 10 dB. A sound 100 times more powerful than near total silence is 20 dB. A sound 1,000 times more powerful than near total silence is 30 dB. In normal, non-laboratory situations an average human ear can only detect a change of at least 3 db.
Dedicated Trunk	A telephone circuit used for a single purpose; such as transmission of 9-1-1 calls.
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/KEY failure or other cause.
Definitive Civic Address	In the context of location information to support IP based emergency services: An address that can be resolved into a local MSAG valid address, will yield a route to the correct PSAP when used to route an emergency call, and is bound to a specific VoIP end-point.
Delay	Anything that is done to delay transmission of the packets such as protocol conversion, queuing, etc.
Delegate Credential Authorities	A delegate credential authority issues certificates, which are derived from Valid Emergency Services Authority (VESA) certification. It is responsible for issuing certificates to the operators of network entities that utilize VESA certificates for the exchange of authenticated data on the i2-defined interfaces. Examples of delegate credential authorities may be PSAP operators, state emergency authorities, or regional 9-1-1 service providers.
Delta MSAG	The Delta MSAG is a file of incremental changes to the MSAG. The changes are applied in the order that they are presented, to either the last updated version of the MSAG or a current Baseline of the MSAG, whichever is more recent.
Department of Justice (DOJ)	A branch of the Federal Government legislated to oversee compliance of Title II of the ADA.
Derived Voice Lines	The VoDSL voice lines are derived from the data portion of the ADSL line. The phone numbers associated with the derived lines are assigned out of the Class 5 switch that the VoDSL Gateway connects to.
Dial Tone First	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.
Digital Subscriber Line (DSL)	A "last mile" solution that uses existing telephony infrastructure to deliver high speed broadband access. DSL standards are administered by the DSL Forum (http://dslforum.org/).



Term	Definition
Digital Subscriber Line Access Multiplexer (DSLAM)	Terminates an ADSL line at the central office.
Direct [and equal] Access	The ability to TTY calls without relying on an outside relay service or third party services.
Direct Connect	A method of connecting a TTY directly into the phone line. When using direct connect, you can dial directly from the keyboard and use auto-answer features.
Direct Dispatch	The performance of 9-1-1 call answering and dispatching by personnel at the primary PSAP.
Direct Inward Dialing (DID)	The ability for a caller outside a company to call an internal extension without having to pass through a switchboard operator or attendant at the MLTS.
Directory Number (DN)	A dialable 10-digit telephone number associated with a telephone subscriber or call destination.
Disaster	Any event which can cause a significant disruption to emergency calling capability.
Disaster Recovery	A specific set of procedures designed to reduce the damaging consequences of unexpected events resulting in the loss of 9-1-1 capabilities.
Discrepancies	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.
Discrete Multi Tone (DMT)	The transmission medium for ADSL.
Disk Operating System (DOS)	A personal computer operating system which manages the computer's resources.
Diverse Routing	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.
Domain Name Server (DNS)	Computing device having a first octet of 172-190.
Domain Name System (DNS)	A globally distributed database for the resolution of host names to numeric IP addresses.
Donor Company	The Service Provider currently responsible for an end user's telephone service prior to the migration of the telephone number to another Service Provider.
Dual Tone Multi-Frequency (DTMF)	The transmission of a selected number or symbol (*, #) via the generation of a specific pair of tones when that number's or symbol's button on a push button telephone is pressed. Also known as Touch-Tone™. The tones are audible and transmitted within the voice band.



Term	Definition
Dynamic Host Configuration Protocol (DHCP)	A widely used configuration protocol that allows a host to acquire configuration information from a visited network and, in particular, an IP address.
Dynamic Host Configuration Protocol Server (DHCP)	The Dynamic Host Configuration Protocol (DHCP) is a set of rules used by a communications device (such as a computer, router or networking adapter) to allow the device to request and obtain an Internet address from a server which has a list of addresses available for assignment.
Dynamic Host Control Protocol	Assignment of an IP address to a client from a host that is only viable during any one established session.
E.164 number	E.164 is an international numbering plan for public telephone systems in which each assigned number contains a country code (CC), a national destination code (NDC), and a subscriber number (SN). There can be up to 15 digits in an E.164 number. The E.164 plan was originally developed by the International Telecommunication Union (ITU).
Echo	Return of transmitted data.
Electronic Industry Association (EIA)	U.S. trade organization that issues its own standards and contributes to the American National Standards Institute.
Electronic Key Telephone System (E-Key)	A multi-line telephone system which utilizes stored program control technology instead of KSU's and KTU's.
Electro-Luminescent Display (ELD)	A type of video display which creates images of graphics or text by direct conversion of electrical energy into light. An alternative to the Cathode Ray Tube (CRT).
Electronic Industry Association (EIA)	A trade organization of manufacturers that sets standards for use of its member companies conducts education programs and lobbies in Washington for its members' collective prosperity. Also associated with the Telecommunications Industry Association (TIA).
Emergency Alert Systems (EAS)	Radio or television based broadcast of emergency event information.
Emergency Call	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.
Emergency Location Identification Number (ELIN)	A valid North American Numbering Plan format telephone number, assigned to the MLTS Operator by the appropriate authority that is used to route the call to a PSAP and is used to retrieve the ALI for the PSAP. The ELIN may be the same number as the ANI. The North American Numbering Plan number may in some cases not be a dialable number.



Term	Definition
Emergency Medical Service (EMS)	Fire, hospital, poison control, etc. response centers.
Emergency Message (EM) Circuits	The special service circuits used to carry 9-1-1 calls to the PSAP.
Emergency Notification Systems (ENS)	General category for any systems used to notify persons of an emergency. May include changeable message signs, sirens, telephone and other media.
Emergency Response Location (ERL)	A location to which a 9-1-1 emergency response team may be dispatched. The location should be specific enough to provide a reasonable opportunity for the emergency response team to quickly locate a caller anywhere within it.
Emergency Ring Back	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)
Emergency Routing Data Base (ERDB)	The ERDB contains routing information associated with each Emergency Service Zone (ESZ) in a serving area. It supports the boundary definitions for ESZs and the mapping of civic address or geo-spatial coordinate location information to a particular ESZ.
Emergency Routing Data Base (ERDB) Operator	An operator that supports the real time routing server (ERDB) that can resolve location information to emergency service zone route at the request of a VPC.
Emergency Service Central Office Number (ESCO)	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.
Emergency Service Number (ESN)	A 3-5 digit number that represents one or more ESZs. An ESN is defined as one of two types: Administrative ESN and Routing ESN (Refer to definitions elsewhere in this document.)
Emergency Service Number (ESN)/ Emergency Service Zone (ESZ)	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).
Emergency Service Zone (ESZ)	A geographical area that represents a unique combination of emergency service agencies (e.g., Law Enforcement, Fire and Emergency Medical Service) that are within a specified 9-1-1 governing authority's jurisdiction. An ESZ can be represented by an Emergency Service Number (ESN) to identify the ESZ. (Refer to ESN)



Term	Definition
Emergency Service Zone Routing Data Base (ERDB)	The ERDB contains routing information associated with each Emergency Service Zone (ESZ) in a serving area. It supports the boundary definitions for ESZs and the mapping of civic address or geo-spatial coordinate location information to a particular ESZ.
Emergency Service Zone Routing Data Base (ERDB) Operator	The entity that operates the ERDB serving a defined geographic area.
Emergency Services Gateway (ESGW)	The Emergency Services Gateway (ESGW) is the signaling and media interworking point between the IP domain and conventional trunks to the E9-1-1 SR that use either Multi-Frequency [MF] or Signaling System #7 [SS7] signaling. The ESGW uses the routing information provided in the received call setup signaling to select the appropriate trunk (group) and proceeds to signal call setup toward the SR using the ESQK to represent the Calling Party Number/Automatic Number Identification (ANI) information.
Emergency Services Gateway (ESGW) Operator	Operates emergency service gateway(s).
Emergency Services Interconnection Forum (ESIF)	An open, technical/operational forum, under the auspices of the Alliance For Telecommunications Industry Solutions, with the voluntary participation of interested parties to identify and resolve recognized 9-1-1 interconnection issues. The interest of all members will be served by observing the principles of openness, fairness, consensus, and due process. ESIF will liaise with standards and governmental organizations to apprise them of its deliberations and decisions. Discussions will be focused on the FCC's Wireless Phase I and II mandates, and into other areas of emergency services interconnection." Please refer to: http://www.atis.org/esif/index.asp
Emergency Services Query Key (ESQK)	The ESQK identifies a call instance at a VPC, and is associated with a particular SR/ESN combination. The ESQK is delivered to the E9-1-1 SR and as the calling number/ANI for the call to the PSAP. The ESQK is used by the SR as the key to the Selective Routing data associated with the call. The ESQK is delivered by the SR to the PSAP as the calling number/ANI for the call, and is subsequently used by the PSAP to request ALI information for the call. The ALI database includes the ESQK in location requests sent to the VPC. The ESQK is used by the VPC as a key to look up the location object and other call information associated with an emergency call instance. The ESQK is expected to be a ten-digit North American Numbering Plan Number.



Term	Definition
Emergency Services Routing Digit (ESRD)	Either a 10-digit North American Numbering plan or non-NANPA number that uniquely identifies a base station, cell site, or sector that is used to route wireless emergency calls through the network. The ESRD may also be used to retrieve the associated ALI data with the call. These numbers can be dialable or non-dialable.
Emergency Services Routing Key (ESRK)	Either a 10-digit North American Numbering plan or non-NANPA number that uniquely identifies a wireless emergency call, is used to route the call through the network, and used to retrieve the associated ALI data. These numbers can be dialable or non-dialable.
Emergency Services Routing Number (ESRN)	The ESRN is used by the Call Server/ Routing Proxy to route an emergency call to the correct ESGW, and by the ESGW to select the desired path to the appropriate SR for the call. The ESRN is expected to be a ten-digit North American Numbering Plan Number.
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 E9-1-1 Control Office.
Emergency Stand Alone (ESA)	A feature within a remote switching unit (RSU) which allows for independent operation of the remote whenever the links between the host and remote are disabled. Based on translations the features are downloaded from the host to the remote prior to the failure.
Emergency Telecommunications (EMTEL)	<p>The concept of EMTEL addresses a broad spectrum of aspects related to the provisioning of telecommunications services in emergency situations. Emergency situations may range from a narrow perspective of an individual being in a state of personal emergency (with need to make an emergency call due to sudden illness, traffic accident, outbreak of fire in the home...) to a very broad perspective of serious disruptions to the functioning of society (viz. disaster situations due to events or processes such as earthquakes, floods, large scale terrorist attacks, etc.). The concept also covers the telecommunications needs of society's dedicated resources for ensuring public safety; including police forces, fire fighting units, ambulance services and other health and medical services, as well as civil defense services. The telecommunications needs of such services have until now been satisfied by dedicated networks and equipment, often different for different services, but with modern technology it is possible to increasingly integrate such services with the public telecommunications services.</p> <p>Terrestrial and satellite radio/TV broadcasting and Internet services provide means for dissemination of information to the general public, in particular in hazardous and disaster situations. Telecommunications means may also be increasingly used as parts of various community functions such as health services (e.g. remote patient monitoring to reduce need for hospitalization).</p>



Term	Definition
Emergency Telephone Notification Systems (ETNS)	Specific category for a system that uses the telephone – in conjunction with other elements – including computer based hardware and software to notify persons of an emergency.
Emerging Technologies	New technologies and network to deliver communications.
End Office	(see Central Office (CO)).
End User	The 9-1-1 caller.
End User Move Indicator (EUMI)	A field in the Local Service Request (LSR) form that indicates the end user (subscriber) is changing Service Address during the porting process.
English Language Translation (ELT)	<p>An ELT is an alphanumeric description of the primary Law Enforcement, Fire and Emergency Medical Service agencies associated with a given Emergency Services Zone/Number. The ELT (also known as an “agency file” or “tell tale” in some systems) includes the name of the first-responder agency, and may include their station number (for dispatch purposes) and telephone number. Examples:</p> <ul style="list-style-type: none"> • ESN 123 translates to: <County> Sheriff, <County> Fire, <County> EMS • ESN 130 translates to <City> Police, <City> Fire Station 57, <County> EMS • ESN 135 translates to <City> Police 6th Precinct, <City> Fire Station 22, <City> EMS (Where the element “<County>” or “<City>” is replaced with the actual County or City name.) <p>Some 9-1-1 systems support more than three agencies. In those cases, the ELT may contain additional listings for Advanced Life Support (Paramedics and Mobile Intensive Care Units), Medevac helicopter services, State or Marine Police, etc.</p>
Enhanced 9-1-1 (E9-1-1)	An emergency telephone system which includes network switching, data base and CPE elements capable of providing Selective Routing, Selective Transfer, Fixed Transfer, caller routing and location information, and ALI.
Enhanced 9-1-1 (E9-1-1) 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.



Term	Definition
Enhanced 9-1-1 System Service Provider (E9-1-1SSP)	An E9-1-1 System Service Provider (E9-1-1SSP) provides systems and support necessary to enable 9-1-1 calling for one or more Public Safety Answering Points (PSAPs) in a specific geographic area. It is typically, but not always, an Incumbent Local Exchange Carrier (ILEC). This includes: <ul style="list-style-type: none"> • A method of interconnection for all telecommunications providers including but not limited to the wireline, wireless, and VoIP carriers • A method and mechanism for routing a 9-1-1 call to the Public Safety Answering Point (PSAP) with no degradation in service regardless of the technology used to originate the call • A method to provide accurate location information for an emergency caller to a PSAP and if required, to other emergency response agencies • Installation of PSAP call handling equipment and training of PSAP personnel when contracted to do so • Coordinating with PSAP authorities and other telecommunications entities for troubleshooting and on issues involving contingency planning, disaster mitigation and recovery
Enhanced 9-1-1 (E9-1-1) Tandem Office	(see Enhanced 9-1-1 Control Office)
Enhanced Data rates for GSM Evolution (EDGE)	EDGE is a digital mobile phone technology which acts as a bolt-on enhancement to 2G and 2.5G General Packet Radio Service (GPRS) networks.
Enterprise Network	A large network connecting major points in a company or other organizations not part of the public telecommunications infrastructure.
Environmental Services Research Institute (ESRI)	Software developer of geographical information system (GIS) software and technology.
Essex	(see Centrex)
Ethernet	A popular local area data communication network, which accepts transmissions from computers and terminals.
European Telecommunications Standards Institute (ETSI)	ETSI is an independent, non-profit organization, whose mission is to produce telecommunications standards for today and for the future. Based in Sophia Antipolis (France), ETSI is officially responsible for standardization of Information and Communication Technologies (ICT) within Europe. These technologies include telecommunications, broadcasting and related areas such as intelligent transportation and medical electronics.
Exchange	A defined area, served by one or more telephone central offices, within which a Local Exchange Carrier furnishes service.



Term	Definition
Exempt Lines	Access lines not subject to 9-1-1 charges.
Failed Migrate Record	A Function of Change (M) migrate transaction record sent to the E9-1-1 DBMS by the Recipient Company which fails to process because the DBMS E9-1-1 record is still locked.
Family abduction	A family abduction occurs when, in violation of a custody order, a decree, or other legitimate custodial rights, a member of the child's family, or someone acting on behalf of a family member, takes or fails to return a child.
Fast Busy	(see Reorder Tone)
Fast Busy Tone	Also, Recorder Tone. An audible tone of 120 interrupts per minute (IPM) returned to the calling party to indicate the call cannot be processed through the network. (57-001)
Feature Group D (FGD)	An MF signaling protocol, originally developed to support equal access to long distance services, capable of carrying one or two ten-digit telephone numbers.
File Transfer Protocol (FTP)	A widely accepted, and readily available, means of communication, designed specifically to move data files between computer systems over an IP network.
Fixed Transfer	The capability of a PSAP attendant to transfer a 9-1-1 call to a pre-determined location by activating a single button.
Fixed/Static	Refers to an IP end-point that cannot move, is always in same location and always accesses a network from the same point.
Footprint	The geographic area covered by a particular wireless cell or cell sector.
Forced Disconnect	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.
Foreign Exchange Service (FX)	A telephone line switched in an exchange or central office other than the exchange or central office area in which the telephone is located.
Frame Relay	A dedicated digital transport service that routes information via switched packets. It is defined in ANSI data link level T 1.618.
Free Run	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)

Term	Definition
Frequency division duplex (FDD)	<p>FDD is the application of frequency-division multiple access (access technology that is used by radio systems to share the radio spectrum) to separate outward and return signals. The uplink and downlink sub-bands are said to be separated by the “frequency offset”. Frequency division duplex is much more efficient in the case of symmetric traffic. In this case TDD tends to waste bandwidth during switchover from transmit to receive, has greater inherent latency, and may require more complex, more power-hungry circuitry.</p> <p>Another advantage of FDD is that it makes radio planning easier and more efficient since base stations do not “hear” each other (as they transmit and receive in different sub-bands) and therefore will normally not interfere each other. With TDD systems, care must be taken to keep guard bands between neighboring base stations (which decreases spectral efficiency) or to synchronize base stations so they will transmit and receive at the same time (which increases network complexity and therefore cost, and reduces bandwidth allocation flexibility as all base stations and sectors will be forced to use the same uplink/downlink ratio)</p>
Gateway	The Point at which a circuit-switched call is encoded and repackaged into IP packets – Equipment that provides interconnection between two networks with different communications protocols; two examples are packet assembler/disassemblers and protocol converters. Gateways operate at the 4 th through 7 th layers of the Open Systems Interconnection model.
Gateway Mobile Location Center (GMLC/MLC)	The GMLC serves as the point of interface to the GSM wireless network for the Emergency Services Network. The GMLC serves as the entity which retrieves, forwards, stores and controls position data within the location network. It receives Position Information from the wireless network, forwards it to the Emergency Service Network upon request and coordinates requests for position update.
General Packet Radio Service (GPRS)	GPRS is a mobile data service available to users of GSM mobile phones. It is often described as “2.5G”, that is, a technology between the second (2G) and third (3G) generations of mobile telephony. It provides moderate speed data transfer, by using unused TDMA channels in the GSM network. Originally there was some thought to extend GPRS to cover other standards, but instead those networks are being converted to use the GSM standard, so that is the only kind of network where GPRS is in use. GPRS is integrated into GSM standards releases starting with Release 97 and onwards. First it was standardized by ETSI but now that effort has been handed onto the 3GPP.
Generic Digit Parameter (GDP)	Identifies the type of address to be presented in calls set up or additional numeric data relevant to supplementary services such as LNP or E9-1-1.



Term	Definition
Geographic Number Portability (GNP)	A form of telephone number portability, where a telephone number may be ported outside its originally assigned rate center (e.g., across LATA boundaries, or to another state). This is different from Local Number Portability (LNP) where the telephone number must be reused within the same rate center.
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/Longitude from a wireless 9-1-1 call.
Geo Location	Latitude, longitude, elevation, and the datum which identifies the coordinate system used. For the i2 solution it is expected that geo location information will be formatted using the World Geodetic System 1984 (WGS84) datum.
Global Positioning System (GPS)	A satellite based Location Determination Technology (LDT).
GR303	A Telcordia standard for communicating from a central office to a remote line module.
Grade of Service	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.
Global Standard for Mobile Communications (GSM)	International standard digital radio interface utilized by some North American PCS carriers.
Groupe Speciale Mobile (GSM)	Global System for Mobile Communications. The predominant digital telephone service technology outside the United States, with some services within the United States. The radio interface is either in the 9—MHZ or 1.8GHZ band.
H.323	Specified in International Telecommunications Union-Telecommunications (ITU-T) specification H.323, the specification for transmitting multimedia (voice, video, and data) across a network, and is used in some VoIP architectures.
Hard of Hearing	The term “hard of hearing” refers to those who have some hearing, are able to use it for communication purposes, and who reasonably comfortable doing so. A hard of hearing person, in audiological terms, may have a mild to moderate hearing loss.



Term	Definition
Health Insurance Portability and Accountability Act (HIPAA)	Federal regulation protecting patients from unauthorized disclosure of medical information.
Hearing Carry Over (HCO)	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 of text communications.
Hertz	Hertz (abbreviated Hz) is a unit of frequency (of change in state or cycle in a sound wave, alternating current, or other cyclical waveform) of one cycle per second. It replaces the earlier term; cycle per second (cps). In acoustic sound, the range of average human hearing is from 20 Hz to roughly 20 kHz (20 thousand Hertz). The pitch of middle C on a piano is 263 Hz.
High Bit Rate Digital Subscriber Line (HDSL)	A bi-directional T1 or DS1 service for the local loop, but restricted to being served from Carrier Service Area, probably at less than two miles from the subscriber.
Highway Call Box	A telephone enclosed in a box and placed along a highway that allows a motorist to summon emergency and non-emergency assistance.
Host Mobility	Powerful IP new routing capability that allows a device to move to another host network and still be identified.
Host Switch	An end office with an internal controller or intelligent process used to complete calls. A host switch controls the function of a remote switch unit (RSU) via a central "control" or "processor" resident within the host switch.
Idle Circuit Tone Application	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.
Implementation and Coordination Office (ICO)	National 9-1-1 Implementation and Coordination Office, previously known as the National 9-1-1 Program Office, currently jointly operated by NHTSA and the National Telecommunication Information Administration which was created and funded by the ENHANCE 9-1-1 Act of 2004. (http://www.e-911ico.gov)
Impulse Transient	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)
Incident Commander	Title that identifies the individual responsible for a specific incident or event.
Incumbent Local Exchange Carrier (ILEC)	A telephone company that had the initial telephone company franchise in an area.



Term	Definition
Instant Call Recorder	A device that allows the user to instantly playback all (or portions of) a call for service to clarify or validate what was heard by the operator to what was said by the caller. Also called and Instant Recall recorder.
Instant Playback Recorder	(see Recall Recorder)
Institute of Electrical and Electronic Engineers (IEEE)	A publishing and standards making body responsible for many telecom and computing standards.
Integrated Access Device (IAD)	Replaces the standard DSL modem at the customer premises. Typically has a built-in standard DMT based DSL modem, an Ethernet Interface for the PC or any other data device and anywhere from 4 to 12 analog ports for phones.
Integrated Services Digital Network (ISDN)	International standard for a public communication network to handle circuit-switched digital voice, circuit-switched data, and packet-switched data.
Integrated Service Digital Network Digital Subscriber Line (ISDL)	A digital interface providing multiple channels for simultaneous functions between the network and CPE
Integrated Services Digital Network User Part (ISUP)	A message protocol to support call set up and release for interoffice voice call connections over SS7 Signaling.
Integrated TTY	Integrated TTY refers to TTY functionality that has been integrated within a computer work station. This may be found within the 9-1-1 telephony system or interfaced in a CAD (computer aided dispatch) system.
Intelligent Network	A telecommunications network that has functions and controls distributed at various nodes on and off the network, enabling great flexibility in transport. This is an SS7 network that includes components such as SSP (Signal Switching Point), STP (Signal Transfer Point), and SCP (Service Control Point or Switch Control Point – depending on the reference you read).
Intelligent Transport System (ITS)	Multi-disciplined plan, under the jurisdiction of the U.S. Dept. of Transportation, to improve traffic flow.
Intelligent Workstation (IWS)	Computer based 9-1-1 answering position equipment that includes computer telephony integration.
Interactive Voice Response (IVR)	A computer system accessible by registered users utilized to identify the Service Provider and 24 X 7 access number for telephone numbers which have been ported or pooled.
Inter-center testing	This is a testing mechanism by which call takers make test calls to other PSAP's to test their proficiency.



Term	Definition
Interim Number Portability (INP)	The practice of moving a customer to a new carrier using a new telephone number, with the old telephone number forwarded to the new telephone number.
Inter-local 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.
Inter-Range-Instrumentation Group (IRIG)	This group, in 1959, proposed a series of time code formats now known as IRIG or NASA time codes. (Ref. NENA 04-002)
Inter-Tandem Transfer	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.
Internal Clock	A time-of-day reference source for timing information in equipment or systems. (Ref. NENA 04-002)
International Multimedia Teleconferencing Consortium (IMTC)	VoIP Forum
International Telecommunications Union – Telecommunications (ITU-T)	International standards body for all communications services.
International Telecommunications Union – Development (ITU-D)	The ITU-D is responsible for creating policies, regulation and providing training programs and financial strategies in developing countries. The mission of the ITU-D is to facilitate and enhance telecommunication development worldwide by offering, organizing and coordinating technical cooperation and assistance activities.
International Telecommunications Union – Radiocommunications (ITU-R)	The ITU-R plays a vital role in the management of the radio-frequency spectrum and satellite orbits, finite natural resources which are increasingly in demand from a large number of services such as fixed, mobile, broadcasting, amateur, space research, meteorology, global positioning systems, environmental monitoring and, last but not least, those communication services that ensure safety of life at sea and in the skies.



Term	Definition
Internet Architecture Board (IAB)	<p>The IAB is the committee charged with oversight of the technical and engineering development of the Internet by the Internet Society (ISOC). It oversees a number of Task Forces, of which the most important are the Internet Engineering Task Force (IETF) and the Internet Research Task Force (IRTF).</p> <p>The body which eventually became the IAB was originally formed by the United States Department of Defense's Defense Advanced Research Projects Agency under the name Internet Configuration Control Board in 1979; it eventually became the Internet Advisory Board in September, 1984, and then the Internet Activities Board in May, 1986 (the name was changed, while keeping the same acronym). It finally became the <i>Internet Architecture Board</i>, under ISOC, in January, 1992, as part of the Internet's transition from a U.S.-government entity to an international, public entity.</p>
Internet Assigned Numbers Authority (IANA)	IANA is the entity that oversees global IP address allocation; DNS root zone management, and other Internet protocol assignments.
Internet Corporation Assigned Names and Numbers (ICANN)	Emerging authority for public domain addresses and URL's.
Internet Engineering Steering Group (IESG)	The IESG is a body composed of the Internet Engineering Task Force Chair and Area Directors.
Internet Engineering Task Force (IETF)	Lead standard setting authority for internet protocols.
Internet Protocol (IP)	The method by which data is sent from one computer to another on the Internet or other networks.
Internet Protocol Access Network (IP Access Network)	The network in which the first IP address is assigned to an end-point. For residential networks the creation and supply of an access network may require the co-operation of several different providers. For example an ISP may lease lines and DSLAM capacity from an existing telephony provider, in such a circumstance both entities are required in the providing of an access network.
Internet Protocol Address (IP Address)	A 32-bit address assigned to hosts using TCP/IP. An IP address belongs to one of five classes (A, B, C, D, or E) and is written as 4 octets separated by periods (dotted decimal format). Each address consists of a network number, an optional sub network number, and a host number. The network and sub network numbers together are used for routing, while the host number is used to address an individual host within the network or sub network.

Term	Definition
Internet Protocol-Coordination Ad-Hoc Committee (IP-COAD)	One of the major challenges facing VoIP services is the lack of technical standards in place that allow customers to initialize calls to the proper 9-1-1 call center in an emergency. To respond to these VoIP challenges, ATIS' Emergency Services Interconnection Forum (ESIF) recently launched a new "IP Coordination Ad Hoc Committee" to contribute to the planning, development, and architectural design of an overall IP-based Enhanced 9-1-1 (E9-1-1) system.
Internet Protocol Private Branch Exchange (IPBX (or IP PBX))	An IP PBX is a private branch exchange (telephone switching system within an enterprise) that switches calls between VoIP (Voice over Internet Protocol or IP) users on local lines while allowing all users to share a certain number of external phone lines. The typical IP PBX can also switch calls between a VoIP user and a traditional telephone user, or between two traditional telephone users in the same way that a conventional PBX does. The abbreviation may appear in various texts as IP-PBX, IP/PBX, or IPPBX.
Internet Protocol Security (IPSec)	IPSec is the next-generation network layer crypto platform. IPSec can be found on routers, firewalls, and client desktops
Internet Protocol Telephony (IP Telephony)	A general term for the technologies that use the IP's packet-switched connections to exchange voice, fax, and other forms of information that have traditionally been carried over the dedicated Circuit-Switched (CS) connections of the PSTN. The IP address may change each time the user logs on.
Internet Service Provider (ISP)	Company that provides Internet access to other companies and individuals
Internet Society (ISOC)	ISOC is a professional membership society with more than 100 organizations and over 20,000 individual members in over 180 countries. It provides leadership in addressing issues that confront the future of the Internet, and is the organization home for the groups responsible for Internet infrastructure standards, including the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB).
Internet Telephone Service Provider (ITSP)	An ITSP offers an Internet data service for making telephone calls using Voice over Internet Protocol technology. Most ITSPs use SIP or H.323 (although H.323 use is declining) for transmitting telephone calls as IP data packets. Customers may use old plain telephones with an analog telephone adaptor (ATA) providing RJ-11 to Ethernet connection.
Internet Telephony Service Provider (ITSP)	A Company providing Internet based telephony services
International Telecommunications Union (ITU)	The telecommunications agency of the United Nations established to provide worldwide standard communications practices and procedures. Formerly CCITT
Interoperability	The capability for disparate systems to work together.



Term	Definition
Interworking	Concept where systems or components from different origins or companies, running on different hardware and operating systems, working together to perform some tasks using common standard network procedure or protocol.
Intra-center testing	This is a testing mechanism by which call takers make test calls from position to position within the Center utilizing the internal telephony system.
ISDN PSAP	(see Public Safety Answering Point)
Jack (RJ-11)	Standard 4-wire connector for phone lines.
Jitter	Packets arriving at a non consistent rate due to a type of distortion caused by the variation of a signal from its reference that can cause data transmission errors, particularly at high speeds.
Jurisdiction	A government agency that has contracted for Enhanced 9-1-1 service. This may be a county, a city, a COG, or a 9-1-1 Area.
Jurisdictional Address	An MSAG valid address for the physical location of a subscriber access line, which has been assigned by the jurisdiction's local addressing authority; i.e., planning department, zoning department, etc. and is used for 9-1-1 emergency dispatching purposes.
Key Pulse (KP)	An MF signaling tone (digit)
Key Service Unit (KSU)	Equipment which provides ringing, lamp voltages, conference, etc. for multi-line key telephone sets.
Key Telephone System (KTS)	A multi-line telephone system comprised of multi-line telephone sets, KTU's and KSU's. Also a type of Multi-line Telephone System designed to provide shared access to several outside lines through buttons, or keys, typically offering identified access lines with direct line appearance or termination on a given telephone set.
Key Telephone Unit (KTU)	A unit mounted in a KSU, required per line, providing key telephone control functions. E.g. hold, lamp, common ringing.
Landline	Colloquial term for the Public Switched Telephone Network access via an actual copper or fiber optic transmission line that travels underground or on telephone poles. Used to differentiate the "wireless" connectivity of a cellular or PCS system.
Landmark Location	Landmark locations can be Civic Addresses but are generally the names of buildings or other commonly known recognized places (e.g., The Empire State Building, The Alamo, etc.) or the name by which a prominent feature is publicly known.



Term	Definition
Last Routing Option (LRO)	The LRO is sent by the VPC to the Call Server/ Routing Proxy and provides the Call Server/ Routing Proxy with a "last chance" destination for the call. The LRO may be the Contingency Routing Number (CRN), which is a 24x7 PSAP emergency number, or it may contain a routing number associated with a national or default call center. The content of the LRO will depend on the condition that resulted in the providing of the LRO. Ultimately the usage of LRO routing data for call delivery is based on logic internal to the Call Server/ Routing Proxy.
LATA Switching Systems Generic Requirements (LSSGR)	A set of Telcordia (formerly Bellcore) specifications defining the requirements of LATA switching systems.
Layer-2 Tunneling Protocol (L2TP)	Allows Point to Point Protocol (PPP) sessions to be tunneled over IP and ATM networks
Light Emitting Diode (LED)	Lamps used for display of information. Commonly used on telephone sets to indicate line status.
Line Digital to Trunk (PSAP) (LDT)	A type of Multi Frequency (MF) trunk interface that requires the PSAP equipment to dip the ALI data base.
Liquid Crystal Display (LCD)	A type of video display that creates images of graphics or text by aligning liquid crystals so that they reflect light. An alternative to the Cathode Ray Tube (CRT).
Local Access and Transport Area (LATA)	The geographical areas within which a local telephone company offers telecommunications services.
Local Area Network (LAN)	A transmission network encompassing a limited area, such as a single building or several buildings in close proximity.
Local Exchange Carrier (LEC)	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).
Local Exchange Routing Guide (LERG)	A data base which defines inter-exchange call routing in the North American Public Switched Telephone Network. It associates NPA/NXX's with their appropriate network elements.
Local Loop	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.



Term	Definition
Local Notification	A system capability whereby a call to 9-1-1 from a MLTS extension is directed through the 9-1-1 Network to a Public Safety Answering Point and simultaneously to a switchboard operator, attendant, or designated personnel where assistance can be provided to the Public Safety Answering Point to locate the caller and/or to assist in directing response. For Local Notification, the call back number shall be a phone number that can be dialed from the PSTN, which will be answered by the switchboard operator, attendant or designated personnel. Local Notification must include the capability for the switch board operator, attendant or designated personnel to identify the location of telephone lines that have dialed 9-1-1.
Local Number Portability (LNP)	A process by which a telephone number may be reassigned from one Local Exchange Carrier to another.
Local Number Portability Administration Center (NPAC) Data Base	The eight (8) regional Number Portability Administration Center Data Bases which contain current Service Provider switching specific information about TNs involved in porting activity.
Local Operational MSAG	A Local Operational MSAG is maintained in a format other than the recommended standard set forth in NENA 02-010 and 02-011. This format may consist of variances to the standard MSAG such as unparsed and concatenated fields for directional, street name, and suffix. (See Standard MSAG and MSAG Address)
Local Service Management System (LSMS) Data Base	The LSP owned network data base which holds down-loaded ported number information. The NPAC SMS (service management system) downloads information to the LSMS; the LSMS supplies porting data to the SCP (service control point) used for the routing of telephone calls.
Location	In the context of location information to support IP based emergency services: The physical position of VoIP end-point expressed in either civic or geodetic form.
Location Acquisition	In the context of location information to support IP based emergency services: Refers to the way in which a network determined location is provided to the network entity responsible for inserting the location information into the context of an emergency call. Location information may be pushed to the network entity by the LIS, or pulled by the network entity from the LIS. The network entity may be the target, or it may be some other routing node such as a proxy or call-server.
Location-aware	In the context of location information to support IP based emergency services: Used to describe IP endpoint devices that are location-capable and that have acquired location information, either with network assistance or by self-determination.



Term	Definition
Location By-Reference	An identifier that when referenced in the correct manner by an authenticated and authorized entity will yield the location of an IP end-point. An example of a location reference is a URI.
Location By-Value	In the context of location information to support IP based emergency services: A PIDF-LO containing the location of an IP end-point that can be attributed to a specific point in time.
Location-capable	Used to describe IP devices that are capable of requesting, acquiring, and storing location information as well as including this information in a PIDF-LO when originating an emergency call.
Location Conveyance	Refers to the act of transporting location information with an emergency call.
Location Data Security	A process to ensure that a relatively high degree of security for correctness of information, integrity, and authorization of access, authenticity/secrecy, and accuracy of information. The intent of the NENA i2 solution is to provide functional equivalency to the existing network services in an IP-based environment, and this includes ensuring that the location information is valid and secure.
Location Dependability	In the context of location information to support IP based emergency services: Reflects the level of trust that a receiving node has in the quality and authenticity of the location information being provided.
Location Determination	In the context of location information to support IP based emergency services: Act of using measurements taken from the access network to calculate or otherwise discover the physical location of a device.
Location Determination Technology (LDT)	A system which computes the x and y coordinates of a wireless 9-1-1 caller.
Location Estimate	In the context of location information to support IP based emergency services: The approximate physical position of an IP end-point expressed in either civic or geodetic form usually accompanied by a degree of uncertainty. The degree of uncertainty may be expressed by a reduction in precision. For civic locations this equates to the number of fields specified while for geodetic locations it equates to the definition of an area or volume specified as a shape.
Location-incapable	Used to describe IP devices that are not capable of requesting, acquiring, or storing location information. This includes most current IP devices.
Location Information Element (LIE)	A protocol container for either or both of: <ul style="list-style-type: none"> • one Location Key (LK) • one Presence Information Data Format (PIDF) document

<i>Term</i>	<i>Definition</i>
<i>Location Information Server (LIS)</i>	LIS serves as a repository for location information. Location information is in the form of civic address or geo-spatial location attributes correlated with a particular physical location. The LIS is configured with mappings between individual location information and a logical representation of the physical locations with which they are associated. This set of associations is called a "wiremap."
<i>Location Information Server (LIS) Operator</i>	Operates the LIS associated with the IP access network used by the callers.
<i>Location Information Server Identifier (LIS-ID)</i>	An identifier for the LIS in which the location object (LO) is stored.
<i>Location Key (LK)</i>	An object that uniquely identifies an instance of a LO that is stored/managed by a LIS on behalf of a VoIP endpoint. The Location Key must contain: <ul style="list-style-type: none"> • LIS-ID – an identifier for the LIS in which the LO is stored. • Client ID – an identifier for an instance of a LO (Geo Location, Civic Location or both) that is stored in a LIS.
<i>Location Object (LO)</i>	The LO is used to refer to the current position of a VoIP endpoint that originates an emergency call. The LO is expected to be formatted as a Presence Information Document Format – Location Object (PIDF-LO) as defined by the IETF in draft-ietf-geopriv-pidf-lo-03[8]. The PIDF-LO may be: <ul style="list-style-type: none"> • Geo location – latitude, longitude, elevation, and the datum which identifies the coordinate system used. For the i2 solution it is expected that geo location information will be formatted using the World Geodetic System 1984 (WGS84) datum. • Civic location – a set of elements that describe detailed street address information.
<i>Location Recipient</i>	In the context of location information to support IP based emergency services: A location recipient is the consumer of location information. This may be the target, the PSAP, the VPC or any other node that uses location information when it is provided.
<i>Location-unaware</i>	Used to describe IP devices that are location-capable but that have not been able to successfully acquire location information, either with network assistance or by self-determination.
<i>Location Validation</i>	Refers to the action of ensuring that a civic address can be used to discern a route to a PSAP.



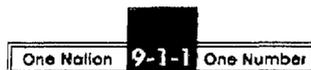
Term	Definition
Logging Recorder	A voice-band audio recorder which records to and plays from a permanent storage media such as tape or disk. Logging recorders are typically multi-channel so as to simultaneously record from several sources.
Login	The process of identifying and authenticating oneself to a computer, ACD or E9-1-1 attendant position system.
Loopback	A type of diagnostic test in which a transmitted signal is returned to the transmitting device and then compared to the original signal.
Lost otherwise missing	A child's whereabouts are unknown to the child's caretaker and this causes the caretaker to be alarmed for at least 1 hour and try to locate the child, under one of two conditions: (1) the child was trying to get home or make contact with the caretaker but was unable to do so because the child was lost, stranded, or injured; or (2) the child was too young to know how to return home or make contact with the caretaker.
Main Station	(see Access Line)
Management Information System (MIS)	A program that collects, stores and collates data into reports enabling interpretation and evaluation of performance, trends, traffic capacities, etc.
Manual Transfer	The capability of a PSAP attendant to transfer a 9-1-1 call to another location by manually dialing the destination number or speed dialing code.
Master Clock	An accurate timing device that generates synchronization signals to control other clocks or equipment. (Ref. NENA 04-002)
Master Street Address Guide (MSAG)	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.
Master Street Address Guide (MSAG) Address	<p>Address recognized by Public Safety for the dispatch of emergency first responders. It is an absolute and unique address in that variants for directions, street spelling, street suffixes, and community names are not allowed. It is preferred that MSAG Addresses be in Civic Address format. The community name associated with this address format is assigned by the Addressing Authority in cooperation with the 9-1-1 Administrator and may or may not be the same as the community name assigned by the USPS.</p> <p>MSAG addresses are used to route 9-1-1 calls and for ALI display.</p> <p>NOTE: MSAG Address data format is not standardized throughout the country. This is generally attributed to legacy system limitations that have been continued as operational practices on the part of 9-1-1 administrative entities. This fact gives rise to the need for two subtending MSAG definitions. (See Standard MSAG and Local Operational MSAG.)</p>



Term	Definition
Master Street Address Guide (MSAG) Administrator	The organizational entity responsible for maintaining a specific set of MSAG data in order to keep it relevant and up-to-date. The MSAG Administrator is the final authority on MSAG accuracy and works with the appropriate 9-1-1 Administrator to maintain integrity of the data.
Master Street Address Guide (MSAG) Consumer	Identifies appropriate organizational entities that have an accepted need for the MSAG in order to support E9-1-1 (e.g., DBMSPs, SPs, Wireless, VDBs, ERDBs, VSPs).
Master Street Address Guide (MSAG) Discrepancy	An MSAG Discrepancy is defined as a record being retrieved from ALI during an actual E9-1-1 call with incorrect information because an MSAG field was incorrect. For example, incorrect ESN assignment or transposition of numbers, incorrect house number ranges, odd/even indicator.
Master Street Address Guide (MSAG) Error	An MSAG error is defined as a hard error from DBMS service order processing or a manual update that failed to meet the MSAG specifications.
Master Street Address Guide (MSAG) FTP Client	Describes the system which connects to the MSAG FTP Server in order to retrieve MSAG data files. Throughout this document the MSAG FTP Client will referred to as the "FTP client".
Master Street Address Guide (MSAG) FTP Interface	Utilizes the SFTP protocol that has been implemented on one or more managed file servers, which enables the transfer of MSAG data files to authorized MSAG consumers.
Master Street Address Guide (MSAG) FTP Server	The system that the MSAG Source organization uses for distributing MSAG data files to necessary recipients. MSAG data files may be distributed on several servers with each server responsible for enforcing user authentication processes for any MSAG FTP Client system. Throughout this document the MSAG FTP Server will referred to as the "FTP server".
Master Street Address Guide (MSAG) Operator	Typically the Database Management System Provider (DBMSP). Works in conjunction with 9-1-1 Administrator to provide and maintain the database equipment and infrastructure that supports the access and retrieval of the MSAG data by authorized parties
Master Street Address Guide (MSAG) Source	Represents a recognized supplier of MSAG files, which may be the MSAG Administrator, or an authorized MSAG Operator. The MSAG Source is typically the E9-1-1 System Service Provider, but may be the 9-1-1 Administrator's MSAG Administrator.
Mechanical Dialer	(see Automatic Alarm and Automatic Alerting Device)



Term	Definition
Media Gateway Control Protocol (MGCP)	In computing, MGCP is a protocol used within a Voice over IP system. MGCP is an internal protocol used within a distributed system that can appear to the outside world as a single VoIP gateway. This system is composed of a Call Agent, at least one "media gateway" (MG) that performs the conversion of media signals between circuits and packets, and at least one "signaling gateway" (SG) when connected to the PSTN. MGCP is a client-server protocol, used by telephony providers in order to have more control over subscribers, contrary to the Session Initiation Protocol (SIP) or H.323 that are peer-to-peer protocols. However, MGCP and SIP can be combined in some cases.
Message Encryption	Message encryption is a process of disguising a message in such a way as to hide its substance.
Message Integrity	Message integrity mechanisms provide protection against unauthorized message modifications.
Micro-Cell	Commonly used to describe PCS cells due to their much smaller footprint compared to a Cellular cell.
Migrate	The term used to describe the inward transaction the Recipient Company submits to the 9-1-1 Data Base Management System Provider that signifies movement of telephone service from a Donor Service Provider.
Millisecond (ms)	One-thousandth of a second (0.001 s)
Misroute	An E9-1-1 call routed to an incorrect PSAP due to a network discrepancy; i.e., wrong ESN in selective routing data base, incorrect switch translations.
Mobile	In the context of location information to support IP based emergency services: A user is said to be mobile if they are able to change access points while preserving all existing sessions and services regardless of who is providing the access network, and their location may be definitively represented by a geographic co-ordinates but only indicatively represented by a civic address.
Mobile Competence Centre (MCC)	The Mobile Competence Centre (MCC) provides support to the 3 rd Generation Partnership Project (3GPP), as well as to ETSI's Technical Committee projects. MCC combines voluntary resources with funded resources, all of which are located at the ETSI Headquarters in Sophia Antipolis, southern France. Some experts have been provided by the 3GPP Partners; the remaining team members are paid for from the MCC budget.
Mobile Directory Number (MDN)	The telephone number dialed to reach a wireless telephone.
Mobile Identified Number (MIN)	A 34-bit binary number that a wireless handset transmits to identify itself to the wireless network.



Term	Definition
Mobile Position Center (MPC)	The MPC serves as the point of interface to the ANSI wireless network for the Emergency Services Network. The MPC serves as the entity which retrieves, forwards, stores and controls position data within the location network. It can select the PDE(s) to use in position determination and forwards the position to the requesting entity or stores it for subsequent retrieval. In the case of a PDE with autonomous determination capability, the MPC receives and stores the position estimation for subsequent retrieval. The MPC may restrict access to position information (e.g., require that the MS be engaged in an emergency service call or only release position information to authorized nodes.)
Mobile Station (MS)	The Mobile Station is the end user making the emergency services call. In Phase 2 it is up to the location terminology in the wireless network to locate the Mobile Subscriber's handset so that the Position Information may be passed to the Emergency Services Network.
Mobile Switching Center (MSC)	The wireless equivalent of a Central Office, which provides switching functions from wireless calls.
Mobile Switching Center Trunk Alternate Route	The routing condition that occurs when all trunks from the MSC to SR are <i>out of service</i> and calls need to be routed to the PSAP. The scenario represents an MSC to SR trunk <i>failure</i> condition versus an all trunks <i>busy</i> condition. (57-001)
Mobile Switching Center Default Route	The routing condition that occurs when a) a wireless 9-1-1 call arrives at an MSC with insufficient data to allow normal routing to the correct PSAP, or b) all dedicated MSC to SR trunks, primary and secondary routes, are out of service (i.e., trunk <i>failure</i> condition).(57-001)
Mobile Switching Center Trunk Overflow	The routing condition that occurs when all trunks from the MSC to the SR are busy with calls and additional calls need to be routed to the PSAP. Wireless call volume exceeds available MSC to SR trunk capacity. (57-001)
Mobile Switching Office (MSO)	(see Mobile Switching Center (MSC))
Modem	An interface device which allows digital data signals to be transmitted over analog telephone lines.
Multi-Frequency (MF)	A type of in-band signaling used on analog interoffice and 9-1-1 trunks.
Multi-Line Telephone System (MLTS)	A system comprised of common control unit(s), telephone sets, and control hardware and software. This includes network and premises based systems. i.e., Centrex and PBX, Hybrid, and Key Telephone Systems owned or leased by governmental agencies and non-profit entities, as well as for profit businesses.
Multi-Line Telephone System (MLTS) Operator	The entity that either owns, or leases/rents from a third party, and operates a MLTS through which a caller/person may place a 9-1-1 call through the public switched network.

Term	Definition
MultiMedia Telecommunications Association (MMTA)	MMTA focuses on the convergence of communications and computing. Providing an open forum for the development of global markets, MMTA strives to ensure a high level of competency and creativity in the delivery of new technology-based solutions to the business community. In the fall of 2000, MMTA was integrated into TIA.
Multi-Protocol Label Switching (MPLS)	A mechanism that allows network administrators to perform a measure of traffic engineering within their networks.
Multi Protocol Over ATM (MPOA)	A specification that enables ATM services to be integrated with existing local-area networks (LANs) that use Ethernet, token-ring or TCP/IP protocols. The goal of MPOA is to allow different LANs to send packets to each other via an ATM backbone.
Namespace Name	The full-form name of a namespace. For example, " <i>Library Of Congress Catalogue Number</i> " or " <i>urn:oasis:names:tc:emergency:cap:1.1</i> " (the XML namespace name assigned to the OASIS Common Alerting Protocol schema definitions).
Namespace Qualifier	A short-form synonym of a namespace name. It is used together with an object identity to make explicit the defining (parent) namespace of the identity. We will then say that the identity is <i>namespace-qualified</i> . For example, LCCN is used for the " <i>Library Of Congress Catalogue Number</i> " namespace.
Namespace Prefix	The equivalent of <i>namespace qualifier</i> in XML – a short-form synonym for a <i>namespace URI</i> .
Namespace Uniform Resource Identifier (URI)	The XML specific <i>namespace name</i> .
National Emergency Number Association (NENA)	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.
Nationally Recognized Testing Laboratory (NRTL)	Any of several testing laboratories recognized in the United States in accordance with industry and municipal standards.
Network Access Identifier (NAI)	An identifier commonly used to tie a user to a specific realm.
Network Access Server (NAS)	A device that controls access to a network or to an ISP. It is an access gateway between an external communications network and an internal network.

Term	Definition
Network Address Translation (NAT)	In computer networking, the process of network address translation (NAT, also known as network masquerading or IP-masquerading) involves re-writing the source and/or destination addresses of IP packets as they pass through a router or firewall. Most systems using NAT do so in order to enable multiple hosts on a private network to access the Internet using a single public IP address.
Network Element Security	Describes methods for securing any layer 3 device in an IP network – including routers and some switches. This includes both physical and IT related security practices.
Network Layers Model	The OSI, or Open System Interconnection, model defines a networking framework for implementing protocols in seven layers. Control is passed from one layer to the next, starting at the application layer in one station, and proceeding to the bottom layer, over the channel to the next station and back up the hierarchy. In ascending order the layers are: physical, data link, network, transport, session, presentation, and application.
Network Layer Security	This is security deployed by layer 3 devices that prevent attacks aimed at terminating network services. This includes firewalls, ACL's and other network related devices and techniques for threat mitigation.
Network Location Determination	In the context of location information to support IP based emergency services: Refers to the mechanism and data that a network entity can use to ascertain the whereabouts of a terminal in the access network such that the location can be specified in a valid PIDF-LO.
Network Reliability Council (NRC)	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.
Network Time Protocol (NTP)	A powerful utility for synchronizing system clocks over a TCP/IP network.
Next Generation 9-1-1 (NG9-1-1)	<p>NG9-1-1 is the next evolutionary step in the development of the 9-1-1 emergency communications system known as E9-1-1 since the 1970s. NG9-1-1 is a system comprised of managed IP-based networks and elements that augment present-day E9-1-1 features and functions and add new capabilities. NG9-1-1 will eventually replace the present E9-1-1 system. NG9-1-1 is designed to provide access to emergency services from all sources, and to provide multimedia data capabilities for PSAPs and other emergency service organizations.</p> <p>NOTE: It is recognized that there will be a multi-year transition to NG9-1-1 beginning as early as 2007. See the NENA list of FAQs related to NG9-1-1 for more details.</p>



Term	Definition
No Record Found (NRF)	A condition where no ALI information is available for display at the PSAP.
Nomadic	In the context of location information to support IP based emergency services: A user is said to be nomadic if they are constrained within an access network such that their location can be represented as a definitive civic address for that network attachment. The user may move from one network attachment to another but cannot maintain a session during that move. If the user is able to move outside the definitive civic address without losing network attachment then the user is considered to be mobile, not nomadic.
Nomadic VoIP Call	Call generated by a VoIP user other than their originally provisioned fixed location using the terminal equipment from that location (i.e.: VoIP handset, laptop, VoIP terminal, PC).
Non-blocking	A switching network designed to complete all call attempts.
Non Call-Path 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.
Non-family Abduction	A non-family perpetrator takes a child by the use of physical force or threat of bodily harm or detains a child for at least 1 hour in an isolated place.
Non-Selective Routing	The routing of 9-1-1 calls based on the NXX or trunk group.
North American Numbering Plan	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.
North American Numbering Plan Administration	The agency that tracks assignment of Area Codes and Central Office Codes.
Not In Service (NIS)	A telephone line state that informs the caller that the number dialed is no longer in service.
NPAC – Interactive Voice Response (IVR) System	Porting data is available throughout the U.S. from the NPAC data base via IVR access. Throughout the 02-011 document, referral to access porting data, DOES NOT MEAN IVR ACCESS.
Numbering Plan Area (NPA)	An established three-digit area code for a particular calling area where the first position is any number 2 through 9 and the last two (2) positions are 0 through 9.
Number Pooling	The current practice of assigning blocks of telephone numbers to Local Exchange Carriers in blocks of 1,000 instead of a full NPA-NXX with 10,000 telephone numbers.
Numbering Plan Digit (NPD)	A component of the traditional 8-digit 9-1-1 signaling protocol between the Enhanced 9-1-1 Control Office and the PSAP CPE. Identifies 1 of 4 possible area codes.

Term	Definition
Numbering Plan Digits (NPD)	Part of the North American telephone numbering scheme. This is also known as the Area Code or Numbering Plan Area (NPA).
NXX	A three-digit code in which N is any digit 2 through 9 and X is any digit 0 through 9. Typically used in describing the "Exchange Code" fields of a North American Numbering Plan telephone number. The full numbering system is in the format of "Area Code" + "Exchange Code" + "Line Number" or NPA-NXX-XXXX. A central office will have one or more area and exchange codes.
NYNEX Information Publication (NIP)	Information published by the NYNEX telephone company (now part of Bell Atlantic).
On-Time-Point	The leading edge of a pulse which occurs coincident with the beginning of a second. (Ref. NENA 04-002)
Open Systems Interconnection (OSI)	A 7-layer hierarchical reference model structure developed by the International Standards Organization for defining, specifying, and relating communications protocols; not a standard or a protocol; Layer Description – (7) Application Provides interface with network users, (6) Presentation Performs format and code conversion, (5) Session Manages connections for application programs, (4) Transport Ensures end-to-end delivery, (3) Network Handles network addressing and routing, (2) Data Link Performs local addressing and error detection and (1) Physical Includes physical signaling and interfaces
Order of Authority	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.
Originating Switchhook Status Indication	An audible and/or visible indication of the status of a calling party being held. (A Basic 9-1-1 feature)
Oscillatory	A transient comprised of various impulse transients with alternating characteristics. (Ref. NENA 04-001)
Otolaryngologist	A physician specialized in diagnosing diseases of the head and neck especially those involving the ears, nose, and throat (ENT).
Overflow	The telecommunications term for the condition when there are more calls than the primary network path is designated to handle. This condition invokes the need to perform some form of call treatment, such as busy signals or Alternate Routing (also see Alternate Routing).
P.01 Grade of Service	(see Grade of Service.)



Term	Definition
Packet	Logical grouping of information that includes a header containing control information and (usually) user data. Packets are most often used to refer to network layer units of data. The terms <i>datagram</i> , <i>frame</i> , <i>message</i> , and <i>segment</i> are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles
Packet-Switched Data Networks	In telecommunications, packet-switching is now-dominant communications paradigm, in which packets (units of information carriage) are individually routed between nodes over data links which might be shared by many other nodes. In packet switched networks, such as the Internet, the data is split up into packets, each labeled with the complete destination address and routed individually.
Permanent Virtual Circuit (PVC)	Permanent, or semi-permanent links that are configured in an packet network. A PVC follows a fixed path through a network.
Personal Communications Service (PCS)	A Commercial Mobile Radio Service using cellular radio networks, but distinct from cellular wireless in its frequencies and communications options.
Personal Digital Assistant (PDA)	Small, handheld device used to store address book information, telephone numbers, personal contacts and other personal information.
Phonetic Alphabet	Words and names used to clarify the letter used. (Example: A=alpha or Adam, B=bravo or boy).
Pilot Number	A telephone customer's main account number, lead number, main listed number, or billing account.
Point-to-Point Protocol (PPP)	A protocol that is used to establish a network link over a dedicated channel. It is widely used for internet access. PPP is modular in design and can support different authentication protocols.
Point-to-Point Protocol over Asynchronous Transfer Mode (ATM) (PPPoA)	A specific binding that allows PPP to be used for ATM links. PPPoA is used for DSL networks.
Point-to-Point Protocol over Ethernet (PPPoE)	A specific binding that allows PPP to be used for Ethernet networks links. PPPoE is used for DSL networks.
Polygon	A shape that is closed, i.e.: circle, square, triangle or any derivative thereof.



Term	Definition
Position Determining Entity (PDE)	The PDE determines the precise position or geographic location of a wireless terminal when the MS starts a call or while the MS is engaged in a call. Each PDE supports one or more position determining technologies. Multiple PDEs may service the coverage area of an MPC and multiple PDEs may serve the same coverage area of an MPC utilizing different positioning determining technologies. (PDE is synonymous with Location Determination Technology (LDT))
Position Identifier	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)
Postal Address	Address recognized and used by the United States Postal Service (USPS) for delivery of mail. It may be an address with a house number and street name or may also consist of other USPS acceptable delivery options such as rural route information such as Army Post Office (APO), or Fleet Post Office (FPO). Postal addressing may contain variants of abbreviations (Avenue or Ave, Street or St, Route or Rt) that the Postal Service recognizes as acceptable postal addresses. Postal addresses reflect the name of the community assigned by the USPS to the correct zip code.
Pre-programmed message	Pre-programmed messages refer to TTY message that may be programmed into some models of standalone or integrated TTYs that allows the call taker to transmit the message within a minimum number of keystrokes or mouse clicks.
Prelingual Deafness	The loss of hearing before the development of language skills.
Presence	"Presence" or presence information, conveys the ability and willingness of a user to communicate with other users on a network, across a set of devices. IETF RFC 2778 defines a model and terminology for describing systems that provide presence information. In that model, a presence service is a system that accepts, stores, and distributes presence information to interested parties.
Presence Information Data Format (PIDF)	The Presence Information Data Format is specified in IETF RFC 3863; it provides a common presence data format for Presence protocols, and also defines a new media type. A presence protocol is a protocol for providing a presence service over the Internet or any IP network.
Presence Information Data Format – Location Object (PIDF-LO)	Provides a flexible and versatile means to represent location information in a SIP header using an XML schema.
Primary ISDN PSAP	(see Primary Public Safety Answering Point)
Primary Public Safety Answering Point (PSAP)	A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. (see Public Safety Answering Point)

Term	Definition
Primary Rate ISDN (PRI)	A non-switched digital service which utilizes DS1 level 1.544 mbps digital carrier full duplex technology and standards to transport multiple 64 kbps clear channels from an originating ISDN equipped central office switch over a point to point facility to a terminating ISDN equipped customer location. PRI utilizes a full duplex 1.544 mbps DS1 level circuit sectioned into twenty-four (24) individual 64 kbps clear channels. Bearer services and circuit control are comprised of twenty-three (23) 64 kbps B-channels and one (1) 64 kbps D-channel totaling to the 1.544 mbps level.
Primary Rate Interface (PRI)	A bundle of ISDN circuits with 23 B channels at 64 Kbps and one D channel equivalent to one T1 link.
Private 9-1-1 Emergency Answering Point	An answering point operated by non-public safety entities with functional alternative and adequate means of signaling and directing response to emergencies. Includes training to individuals intercepting call for assistance that is in accordance with applicable local emergency telecommunications requirements. Private 9-1-1 Emergency Answering Points are an adjunct to public safety response and as such must provide incident reporting to the public safety emergency response centers per local requirements.
Private Branch Exchange (PBX)	A private telephone switch that is connected to the Public Switched Telephone Network.
Private Switch 9-1-1 (PS/9-1-1)	A private telephone system which includes network, switching and data base elements capable of providing ANI (ELIN) and ALI (ERL). Designed to use in emergency situations to notify Public Safety personnel of the specific location of a 9-1-1 caller utilizing a Telephone Station connected to a private telephone network.
Private Switch ALI (PSALI)	A service option which provides Enhanced 9-1-1 features for telephone stations behind private switches. E.g. PBXs.
Project ALERT	America's Law Enforcement Retiree Team for MEC cases
Protocol	A set of rules or conventions that govern the format and relative timing of data in a communications network. There are three basic types of protocols: character-oriented, byte-oriented, and bit-oriented. The protocols for data communications cover such things as framing, error handling, transparency, and line control.
Provider Selection	New IP routing capability that allows a device to select its provider.
Proxy Operator	Operates proxy server(s).

Term	Definition
Proxy or Proxy Server/Policy and Routing Server	“A policy and routing server in the context of SIP is a proxy server, an intermediary entity that acts as both a server and a client for the purpose of making requests on behalf of other clients. A proxy server primarily plays the role of routing, which means its job is to ensure that a request is sent to another entity “closer” to the targeted user. Proxies are also useful for enforcing policy (for example, making sure a user is allowed to make a call). A proxy interprets, and, if necessary, rewrites specific parts of a request message before forwarding it.” (Refer to IETF RFC 3261[5].) It can be a policy/routing element in other protocols.
Pseudo Automatic Location Identification (pALI)	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).
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 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, which provides police, fire-fighting, medical or other emergency services or has authority to do so.
Public Safety Agency	An entity that provides fire fighting, law enforcement, emergency medical or other emergency service.
Public Safety Answering Point (PSAP)	A facility equipped and staffed to receive 9-1-1 calls. (see also Primary and Secondary Public Safety Answering Point (PSAP))
Public Safety Answering Point (PSAP) Operators	Operates the Public Safety Answering Points in a particular county, state, or other regional jurisdiction.
Public Safety Answering Point (PSAP) Uniform Resource Identifier (URI)	A form of a name or address that denotes a PSAP and is used over an IP network.
Public Service Announcement (PSA)	Announcement of events, emergency information and other public interest information on public and private media (radio, television, print) at no cost to the requesting agency (usually).
Public Switched Telephone Network (PSTN)	The network of equipment, lines, and controls assembled to establish communication paths between calling and called parties in North America.



Term	Definition
Pulse Width Coded	Modulation of a carrier by the digital representation of an analog signal. (Ref. NENA 04-002)
Q or QQ	Indicates a question
Quality Assurance Program	System that facilitates review and evaluation of work product. Information is used to validate effectiveness of training and evaluate need for additional training or other corrective action.
Quality of Service (QoS)	As related to data transmission a measurement of latency, packet loss and jitter.
Queuing	Queuing is an automated process by which call are presented in a predefined sequence to a call taker.
Radio Frequency (RF)	Self explanatory.
Rate Center	A geographically specified area used for determining mileage and/or usage dependent rates in the Public Switched Telephone Network.
Real-Time	The availability of information at the exact time it is occurring.
Real-time Transport Control Protocol (RTCP)	<p>RTCP is a sister protocol of RTP and provides out-of-band control information for an RTP flow. It partners RTP in the delivery and packaging of multimedia data, but does not transport any data itself. It is used periodically to transmit control packets to participants in a streaming multimedia session. The primary function of RTCP is to provide feedback on the quality of service being provided by RTP.</p> <p>It gathers statistics on a media connection and information such as bytes sent, packets sent, lost packets, jitter, feedback and round trip delay. An application may use this information to increase the quality of service perhaps by limiting flow, or maybe using a low compression codec instead of a high compression codec. RTCP is used for Quality of Service (QoS) reporting.</p>
Real-Time Transport Protocol (RTP)	A network protocol used to carry packetized audio and video traffic over an IP network that helps ensure that packets get delivered in a timely way.
Recall Recorder	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.
Receipt	Date and time stamp when document either entered into an electronic tracking system by the jurisdiction or service provider.
Recipient Company	The new Service Provider responsible for the end users telephone service and E9-1-1 data after the migration of the telephone number from a Donor Service Provider.

Term	Definition
Redirect Operator	Operates redirect server(s).
Redirect Server/Call Relay Server	In the context of SIP, a call relay server is a redirect server UA server that generates (3xx) redirect responses to requests it receives, redirecting the client to contact an alternate set of Uniform Resource Identifiers (URIs). (Refer to IETF RFC 3261[5].) This may be an H.323 Gatekeeper for implementations that use ITU H.323 architectures.
Redundancy	Duplication of components, running in parallel, to increase reliability; A backup system (either a device or a connection) that serves in the event of primary system failure.
Referred	Date and time stamp when the Data Base Management System Provider's Data Rep determines it is necessary to forward the request to another entity.
Regional Access Network Provider (RANP)	The entity that provides wide area DSL coverage. The RANP provides logical links to an ISP in the form of ATM PVCs, L2TP tunnels, or IP routed traffic.
Rejected	Date and time stamp a request is denied by the recipient.
Remote Authentication Dial-In User Service (RADIUS)	The attributes for conveying access network ownership and location information based on a civic and geospatial location format
Remote Call Forwarding	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.
Remote Switch Units (RSU)	A small switching system that is located at a remote point from a host switch. All or most of its call processing capability is obtained from an electronic type host office. The remote is connected to the host by umbilical circuits providing message and signal handling capabilities.
Reorder Tone	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.
Request for Comment (RFC)	A method by which standard setting bodies receive input from interested parties outside of the working group.
Re-Ring	(see Emergency Ring Back)
Resource Reservation Protocol (RSVP)	Protocol that supports the reservation of resources across an IP network.
Response Agency	The public safety agency having legal or consensual obligation to respond to a call for service.
Retrieval Key	A 10-digit number that is used to uniquely identify an emergency call for the purpose of retrieving the ALI record by the PSAP.

Term	Definition
Ringback Tone	A tone returned to the caller to indicate that a call is being processed.
RJ-11	A standard jack for handset and other devices connecting to a twisted pair.
Roaming	Roaming: means gaining network access through a service provider other than the one that the subscriber purchases service from, or outside the subscriber's home service territory.
Root Discovery Operator (RDO)	The operator that supports the well known root database from which the URI (Uniform Resource Identifier) of the correct VDB or ERDB can be determined based on regional location information.
Route Diversity	(see Diverse Routing)
Router	<ul style="list-style-type: none"> • 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 • A device that provides network management capabilities (e.g., load balancing, network partitioning, usage statistics, communications priority and troubleshooting tools) that help network managers to detect and correct problems • An intelligent device that forwards data packets from one local area network (LAN) to another and that selects the most expedient route based on traffic load, line speeds, costs, or network failures to complete the call
Routing Emergency Service Number (ESN)	The 3-5 position Emergency Service Number (ESN) used by a selective router to selectively route a 9-1-1 call and for switch-based selective transfer features. In cases where Routing ESNs are not used, the routing ESN equals the Administrative ESN. (Refer to Administrative ESN)
Routing Number	(see Pseudo Automatic Number Identification (pANI))
Routing Number Authority (RNA)	An authority responsible for distributing ranges of numbers to network operators for the purposes of call routing and query steering.
RS-232C	An electrical and mechanical standard for the serial transfer of digital information between digital systems, such as computers, printers or communications equipment.
Runaways	A runaway is when a child leave home without permission and stays away overnight; or a child 14 years old or younger (or older and mentally incompetent) who is away from home chooses not to return when supposed to and stays away overnight; or a child 15 years old or older who is away from home chooses not to return and stays away two nights.
Secondary ISDN Public Safety Answering Point	(see Secondary Public Safety Answering Point)



Term	Definition
Secondary Public Safety Answering Point	A PSAP to which 9-1-1 calls are transferred from a Primary PSAP. (See Public Safety Answering Point)
Selective Router	(see Enhanced 9-1-1 Control Office)
Selective Router (SR) Operators	Operates the Selective Router(s) corresponding to specific local exchange areas.
Selective Routing (SR)	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.
Selective Routing Data Base (SRDB)	The routing table that contains telephone number to ESN relationships which determines the routing of 9-1-1 calls.
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.
Server	In information technology, a server is a computer program that provides services to other computer programs (and their users) in the same or other computers. The computer that a server program runs in is also frequently referred to as a server (though it may be used for other purposes as well).
Server	<ul style="list-style-type: none"> • On a local area network, the computer that runs the administrative software to control access to the network. The server makes network resources available to the workstations • Node or software program that provides services to clients • In network addressing, a concentrator, data switch, or host computer being accessed • In a synchronous packet assembler/disassembler (PAD), a device that assigns remote devices to a logical multipoint host line
Service Address	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)
Service Level Agreement (SLA)	A contract between a service provider and the end user, which stipulates and commits the service provider to a required level of service.
Service Order	Local Exchange Carrier document used for additions, changes or removals of telephone service.
Service Order Input (SOI)	Service Order Input is a file of completed service order updates that is sent to the DBMSP by all SP's.
Service Provider	An entity providing one or more of the following 9-1-1 elements: network, CPE, or data base service.



Term	Definition
Service Provider Identifier (SPID)	A four (4) character, numeric service provider identification code assigned by the National Exchange Carrier Association (NECA) to Local Exchange Carriers. It does not include resellers, private switch owners or others not acting as LEC's who are sending customer's transaction record data to the 9-1-1 data bases.
Serving Central Office	The central office (CO) from which a subscriber is served. (see Central Office (CO))
Serving Public Safety Answering Point	The PSAP to which call would normally be routed. (57-001)
Session Initiation Protocol (SIP)	This application protocol already has a priority field that recognizes four values. In order of importance, they are: <i>Emergency, Urgent, Normal, Non-Urgent</i>
Shared Residential MLTS Service	The use of a MLTS to provide service to residential facilities even if the service is not delineated for purposes of billing. For purposes of the definition, residential facilities shall be liberally construed to mean single family and multi-family facilities including Extended Care Facilities and Dormitories.
Shared Telecommunications Services	Includes the provision of telecommunications and information management services and equipment within a used group located in discrete private premises in building complexes, campuses, or high-rise buildings, by a commercial shared services provider or by a user association, through privately owned customer premises equipment and associated data processing and information management services, and includes the provision of connections to the facilities of a local exchange and to interexchange telecommunications companies.
Signaling Connection Control Part (SCCP)	SCCP is the protocol used at the transport layer for TCAP-based services such as freephone (800/888), calling card, local number portability, wireless roaming, and personal communication services (PCS). SCCP also provides the means by which an STP can perform global title translation (GTT), a procedure by which the destination signaling point and subsystem number (SSN) is determined from digits (i.e., the global title) present in the signaling message.
Signaling System 7 (SS7)/Common Channel Signaling 7 (CCS7)	An out-of-band signaling system used to provide basic routing information, call set-up and other call termination functions. Signaling is removed from the voice channel itself and put on a separate data network. Also known as Common Channel Signaling No. 7 (CCS7).
Signature Control	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)
Simple Network Time Protocol (SNTP)	A utility for synchronizing system clocks over a TCP/IP network. This protocol is similar to NTP and is used when the ultimate performance of the full NTP implementation is not needed.



Term	Definition
Simple Object Access Protocol (SOAP)	SOAP is a protocol for exchanging XML-based messages over a computer network, normally using HTTP. SOAP forms the foundation layer of the Web services stack, providing a basic messaging framework that more abstract layers can build on.
Simple Transversal of User Datagram Protocol (UDP) Network Address Translation (NATs) (STUN)	A protocol for assisting devices behind a NAT firewall or router with their packet routing.
Simulated Facility Group (SFG)	A Facility Group is a set of trunks established for a particular transport purpose to which incoming calls are routed. When this is simulated, this is a form of call blocking for congestion control.
Single Point of Failure	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)
Small Office/Home Office (SOHO)	Describes a small office or home office with few occupants, often just one.
Society of Automotive Engineers (SAE)	U.S. based engineering standard body for the automotive industry.
Sockets	A method for communication between two applications in a network. The socket is defined as "the endpoint in a connection".
Soft Permanent Virtual Circuit (SPVC)	A Soft PVC is a user-to-user connection in which the user-to-network connections are PVCs, but all or part of the cross-network connection is an SVC and does not need to be configured at every hop across the ATM network (as would be the case for a PVC).
Source Data Base	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.
Spatial	Concept of describing a space or area of space.
Speech Impairment	Speech Impairment is a communications disorder, such as stuttering, impaired articulation, language impairment or a voice impairment, which adversely affects a person's ability to articulate speech clearly.
Spike Masking	The "spike" is a rapid increase in the number of call attempts to the telephone network. When the network's capacity is reached, all call attempts beyond when can be carried are blocked or "masked" (i.e., you can't see them because they are being carried).

Term	Definition
<i>Splash Ringing</i>	The capability to provide an audible signal simultaneously with trunk seizure on an incoming 9-1-1 call.
<i>SSH File Transfer Protocol (SFTP)</i>	A network protocol that provides file transfer and manipulation functionality over any reliable data stream. It is typically used with the SSH-2 protocol to provide secure file transfer.
<i>Stand Alone Data Base</i>	A data base system created, maintained and located at a 9-1-1 Jurisdiction.
<i>Standard Master Street Address Guide (MSAG)</i>	An MSAG maintained in accordance with the data fields as recommended in NENA standards 02-010 and 02-011. (See MSAG Address and Local Operational MSAG)
<i>Standard Operating Procedure (SOP)</i>	A written directive that provides a guideline for carrying out an activity. The guideline may be made mandatory by including terms such as "shall" rather than "should" or "must" rather than "may".
<i>Start (ST)</i>	An MF signaling tone (digit).
<i>Start Bit</i>	In asynchronous transmission, the first element in each character that prepares the receiving device to recognize the incoming information.
<i>Start Prime (STP)</i>	An MF signaling tone (digit)
<i>Station Identification</i>	A telephone number dialable from the public switched network, which provides sufficient information to permit a return call by the Public Safety Answering Point to the caller or a telephone nearby the caller.
<i>Stop Bit</i>	In asynchronous transmission, the last transmitted element in each character, which permits the receiver to come to an idle condition before accepting another character.
<i>Straight Binary Seconds (SBS)</i>	A binary number that appears in the IRIG time code which represents the total number of seconds since midnight. (Ref. NENA 04-002)
<i>Stranded Unlock Record</i>	A record in the E9-1-1 data base unlocked by the Donor Company via a Function of Change (U) unlock transaction record for more than seven (7) days for which a migrate order has not been sent by the Recipient Company. Once unlocked, a record remains unlocked until a (M) migrate record is received, or the systems permissive migrate transaction time has expired and no other changes shall be made to the record.

Term	Definition
Stream Control Transport Protocol (SCTP)	<p>SCTP is defined by IETF RFC2960 as the transport layer to carry signaling messages over IP networks. SCTP/T is just one of the many products in the Adax Protocol Software (APS) SIGTRAN suite that has been designed for Convergence, Wireless and Intelligent Networks. Compliant with IETF RFC2960 and RFC3309, SCTP/T (SCTP for Telephony) is implemented in the OS kernel. SCTP/T provides a transport signaling framework for IP networks that enhances the speed and capability of SSCS/HSL and can be deployed over T1/E1, Ethernet and ATM OC3 physical media interfaces.</p> <p>In addition to the services specified in IETF RFC2960, Adax SCTP/T also provides a transport framework with levels of service quality and reliability as those expected from a Public Switched Telephony Network (PSTN).</p>
Successful ALI Queries	The sum of all ALI Queries less No Record Finds, Misroutes, MSAG Discrepancies, and ALI Discrepancies.
Switched Virtual Circuit (SVC)	A network connection initiated by signaling at a UNI, where the originator specifies the destination address.
Symmetrical Digital Subscriber Line (SDSL)	A technology that allows more data to be sent over existing copper telephone lines. It is called symmetric because it supports the same data rates for upstream and downstream traffic.
Sync	Abbreviation for synchronized or synchronization.
Synchronization	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)
Synchronous Optical NETWORK (SONET)	High speed digital transport over fiber optic networks using synchronous protocol.
System Network Architecture (SNA)	IBM's standard network architecture describing logical structure, formats, protocols and operational sequences for transmitting information between software and hardware devices.
System Provider	(see Service Provider)
T1	<p>The T1 (or T-1) carrier is the most commonly used digital transmission service in the United States, Canada, and Japan. In these countries, it consists of 24 separate channels using pulse code modulation (PCM) signals with time-division multiplexing (TDM) at an overall rate of 1.544 million bits per second (Mbps). T1 lines originally used copper wire but now also include optical and wireless media. A T1 Outstate System has been developed for longer distances between cities.</p> <p>It is common for an Internet access provider to be connected to the Internet as a point-of-presence (POP) on a T1 line owned by a major telephone network. Many businesses also use T1 lines to connect to an Internet access provider.</p>



Term	Definition
Tag	A unique label that precedes the data for the data element associated with the tag.
Tag Data	A method of identifying data elements of varying lengths within a data record.
Tag Data Record	A record of varying length comprised of pre-defined tag labels and their associated data elements.
Tandem Central Office (Tandem CO)	(see Enhanced 9-1-1 Control Office)
Target	The IP endpoint to which location is attributed.
TDD/TTY Detector	Any device that automatically detects TDD/TTY tones and audibly and/or visually notifies the calltaker.
Team Adam	NCMEC on site emergency response team for abduction cases
Technical Advisory (TA)	A document describing Telcordia's preliminary view of proposed requirements for products, interfaces, technologies or services.
Technical Assistance (TA)	Technical Assistance document issued by the U.S. Department of Justice (US DOJ) to assist agencies in achieving compliance with regulations.
Technical Information Document (TID)	NENA White Paper.
Technical Reference (TR)	A Telcordia document that spells out detailed specification for product or service development.
Technical Requirements Document (TRD)	NENA Technical Requirements Document, developed by a Technical Committee, is used as basis for a NENA Technical Committee or outside Standards Development Organization (SDO) to develop formal industry accepted standards or guidelines.
Telecommunication Technology Committee (TTC)	A Japanese committee whose purpose is to contribute to standardization in the field of telecommunications by establishing protocols and standards for telecommunications networks and terminal equipment, etc as well as to disseminate those standards.
Telecommunications Device for the Deaf (TDD)	Also known as TTY. (see Teletypewriter (TTY))
Telecommunications Industry Association (TIA)	A lobbying and trade association, the result of the merger of the USTA (United States Telephone Association) and the EIA (Electronic Industries Association).
Telecommunications Relay Service (TRS)	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.

Term	Definition
Telecommunications Service Provider (TSP)	A business that provides voice or data transmission services. These services are provided over a telecommunications network that transmits any combination of voice, video and/or data between users. A TSP could be, but is not limited to, a Local Exchange Carrier (LEC), a wireless telecommunications provider, a Commercial Mobile Radio Service provider, or a PBX service provider.
Telecommunications Technology Association (TTA)	Telecommunications Technology Association was founded as a voluntary standards body and has established a total of 450 standards in telecommunications fields. Its main aim is to enhance the Korean national infrastructure of telecommunication systems.
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.
Telematics	The system of components that supports two-way communications with a motor vehicle for the collection or transmission of information and commands.
Telephone Service Priority (TSP)	A procedure used by a telephone company to establish priorities in deciding which lines and trunks to restore subsequent to an outage. Generally, the highest priority goes to federal law enforcement and military usage, with local emergency services (including 9-1-1) and medical facilities following. Established by the National Communications System Office.
Teletypewriter (TTY)	Also know 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)
Text Telephone	Another term for TDD/TTY
Three-Way Calling	(see Conference Transfer)
Throwaway	A Throwaway is a child asked or told to leave home by a parent or other household adult and the child is out of the household overnight; or a child who ia away from home is prevented from returning home by a parent or other household adult.
Time Code	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)
Time Difference of Arrival (TDOA)	A terrestrial Location Determination Technology (LDT) that computes a transmitter's location based upon the times a signal is received at multiple receivers.



Term	Definition
Time Division Duplex Mode (TDD)	This is using TDM access to separate outward and return signals in which the bandwidth used can be variable based on the requirements of the data being transmitted.
Time Division Multiple Access (TDMA)	A digital radio interface utilized by some North American PCS carriers.
Time Division Multiplexing (TDM)	A digital multiplexing technique for combining a number of signals into a single transmission facility by interweaving pieces from each source into separate time slots.
Time Sync Status Character	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)
Token Ring	Local area network architecture originally developed by IBM. Later standardized by ISSS as 802.5. Transmission on the network is governed by the possession of a "token" or specific octet of data. A station may only transmit when it receives the token.
Traceable UTC Source	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)
Transaction Capabilities Application Port (TCAP)	TCAP is an application protocol used to connect to an external data base, perform a query of the data base and retrieve information. The information or data retrieved is then sent back in the form of a TCAP message to the signaling point that requested it. It may reside upon the SS7 protocol stack or TCP/IP stack.
Transfer	A feature which allows the PSAP Telecommunicator to redirect a 9-1-1 call to another location.
Transfer Key	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.
Transient	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.
Transient Voltage Surge Suppression (TVSS)	Devices designed to protect critical PSAP equipment from transients induced on powering and data/signal/telecommunications conductors. (Ref. NENA 04-001)
Transmission Control Protocol (TCP)	A communications protocol linking different computer platforms across networks. TCP/IP functions at the 3 rd and 4 th levels of the open system integration model.

Term	Definition
Transmission Control Protocol/Internet Protocol (TCP/IP)	A layered set of protocols used to connect dissimilar computers together. The TCP part of this provides the transport service required by the application layer. The TCP layers in the two host computers that are sending data will communicate to each other to insure reliable data packet transport. The IP part of this provides the service user to deliver the datagram to its destination. This layer provides the routing through the network and the error messages should the datagram be undeliverable.
Transport Control Protocol (TCP)	The end to end reliability protocol that recognizes and corrects lower layer errors caused by connectionless networks.
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.
Trunk Seizure	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.
TTY Protocol	TTY protocol refers to the use of unique abbreviations used to control the flow of conversation. The use of TTY protocols is critical to effective TTY communications.
Unavailable Bit Rate (UBR)	A service call where the bit rate available in the network is not guaranteed to the user. The network does not provide flow control handshaking with the user.
Uncertainty	(See Confidence/Uncertainty)
Underwriters Laboratories (UL)	One of several United States nationally recognized testing laboratories (NRTL) whose testing specifications have been adopted as de facto industry standards.
Uniform Resource Identifier (URI)	A predictable formatting of text used to identify a resource on a network (usually the Internet) OR A string of characters that must follow prescribed syntaxes such as URL, URN... <u>Note</u> Version 1.1 of the XML namespaces recommendation uses IRIs (Internationalized Resource Identifiers) instead of URIs. However, because version 1.1 is not yet a full recommendation [February, 2003] and because the IRI RFC [11] is not yet complete, this document continues to refer to URIs instead of IRIs.
Uniform Resource Locator (URL)	A URL is a URI specifically used for describing and navigating to a resource (e.g. http://www.nena.org)
Uninterruptible Power Supply (UPS)	A backup system designed to provide continuous power in the event of a commercial power failure or fluctuation.
Universal Coordinated Time (UTC)	Also known as Zulu or GMT. Time provided by National Institute of Standards and Technology (NIST) and United States Naval Observatory (USNC).

Term	Definition
Universal Terrestrial Radio Access (UTRA)	UTRA is a standard for 3G mobile communications services being specified by 3GPP. The radio access components of UTRA are based on direct-spread wideband code-division multiple access (WCDMA) and hybrid time-division (TDCDMA) access methods that have been designed for 3G frequency efficiency, mobility, and QoS requirements.
Unlock	The action required by a 9-1-1 Data Base Management System Provider, upon notification from a Donor Company, that makes the end user's telephone number record available for the Recipient Company to replace the customer details and Company ID.
User Agent (UA)	As defined for SIP in IETF RFC 3261[5], the User Agent represents an endpoint in the IP domain, a logical entity that can act as both a user agent client (UAC) that sends requests, and as user agent server (UAS) responding to requests.
User Agent Client (UAC)	Refer to IETF RFC 3261 for the following definition. "A user agent client is a logical entity that creates a new request, and then uses the client transaction state machinery to send it. The role of UAC lasts only for the duration of that transaction. In other words, if a piece of software initiates a request, it acts as a UAC for the duration of that transaction. If it receives a request later, it assumes the role of a user agent server for the processing of that transaction."
User Agent Server (UAS)	Refer to IETF RFC 3261 for the following definition. "A user agent server is a logical entity that generates a response to a SIP request. The response accepts, rejects, or redirects the request. This role lasts only for the duration of that transaction. In other words, if a piece of software responds to a request, it acts as a UAS for the duration of that transaction. If it generates a request later, it assumes the role of a user agent client for the processing of that transaction."
User Datagram Protocol (UDP)	One of several core protocols commonly used on the Internet. Used by programs on networked computers to send short messages, called datagrams, between one another. UDP is a lightweight message protocol, compared to TCP, is stateless and more efficient at handling lots of short messages from many clients compared to other protocols like TCP. Because UDP is widely used, and also since it has no guaranteed delivery mechanism built in, it is also referred to as Universal Datagram Protocol, and as Unreliable Datagram Protocol.
V0 Interface	LIS to VoIP Endpoint. The V0 interface is used to provide a means for a VoIP endpoint to receive information corresponding to a pre-determined location.
V1 Interface	VoIP Endpoint to Call Server/Proxy. The V1 interface is between the VoIP Endpoint and the Call Server within the VSP's network.

<i>Term</i>	<i>Definition</i>
<i>V2 Interface</i>	Call Server/Proxy to VPC. The V2 interface is used to request emergency call routing information when the Call Server/Routing Proxy/Redirect Server is a separate element from the VPC.
<i>V3 Interface</i>	LIS to VPC (Optional). The V3 interface provides a means for the VPC to obtain the emergency caller's location.
<i>V4 Interface</i>	Call Server/Routing Proxy to ESGW. The V4 interface is used to forward the call to the appropriate ESGW.
<i>V5 Interface</i>	Call Server to Redirect Server. The V5 interface is defined as a SIP interface to a Redirect Server so it supports a subset of the SIP specification.
<i>V6 Interface</i>	Call Server to Routing Proxy. The V6 interface is defined as a SIP interface to a Routing Proxy.
<i>V7 Interface</i>	Location Validation Interface. The V7 interface is used by the LIS provider to request validation of a given Civic Location as compared with the MSAG-based data stored in the VDB. The VSP may also use this interface, when acting on behalf of its customers in the function of location provider/verifier.
<i>V8 Interface</i>	VPC to ERDB. The V8 interface supports queries from the VPC to the ERDB.
<i>V9 Interface</i>	LIS/VPC to Root Discovery Operator. The V9 interface allows a VEP/LIS or VPC to discover the appropriate VDB/ERDB.
<i>Valid Emergency Services Authority (VESA)</i>	This organization is the root source of all certificates. It is responsible for identifying and issuing certificates either directly to end using entities or through delegate credential authorities. It is responsible for ensuring that any delegate credential authority that it identifies is properly qualified and operating with sufficient security and legitimacy to perform this role. Where VESA issues certificates directly to end users, it also has the responsibilities of a delegate credential authority in those cases.
<i>Valid XML instance document</i>	The instance document satisfies the structural, content type and constraints established by its associated schema (document definition).
<i>Validation Data Base (VDB)</i>	The VDB contains information that describes the current, valid civic address space defined by the Emergency Services Network Provider's MSAG. Validation against this database ensures that the address is a real address (i.e., the address exists) but does not ensure that it is the location of the caller.
<i>Validation Data Base (VDB) Operator</i>	An operator that provides location information validation services to LIS operators and other users.
<i>Variable Bit Rate non-real Time (VBRnrt)</i>	A service where the transmission rate varies over time incorporating the concept of bandwidth on demand.
<i>Variable Bit Rate real-time (VBRrt)</i>	A service where the transmission rate varies over time incorporating the concept of bandwidth on demand.

Term	Definition
V-E2 Interface	VPC to ALI DB. The V-E2 interface uses the E2+ protocol as defined in NENA Standards 05-001[13], with modifications required for support of i2.
Version 4 of the Internet Protocol	The transmission of voice as packets of data, using the protocol originally developed for the Internet.
VESA Certificate	This is the certification provided by a VESA that clearly identifies the end user is properly qualified and operating with sufficient security and legitimacy to perform its role. Presumably it can be used in a variety of situation including secure web based transactions and exchange of data from one point to another on the network. Generally, the process of checking certification occurs in the background and the end user receives either a pass or a fail.
Virtual Circuit (VC)	A packet-based communications link between two devices that emulates a dedicated physical circuit.
Virtual Circuit Identifier (VCI)	Part of the addressing information used in an ATM frame that identifies a particular virtual path.
Virtual Facility Group (VFG)	One or more trunks terminated at the same two points and used internally within a switch. When referred to as E9-1-1 VFG, it relates to the E9-1-1 Control Office switch. (From 03-007)
Virtual LAN (VLAN)	A logical grouping of ports and endpoints such that all ports and endpoints in the VLAN appear to be on the same physical (or extended) LAN segment even though they may be geographically separated.
Virtual Path Identifier (VPI)	Part of the addressing information used in an ATM frame that identifies a particular virtual path.
Virtual Private Network (VPN)	A virtual private network (VPN) is a network that uses a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organization's network
Voice Carry Over (VCO)	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.
Voice over Asynchronous Transfer Mode (VoATM)	A technology that has its root in the development of broadband ISDN. It integrates the multiplexing and switching functions and allows communications between devices
Voice over Digital Subscriber Link (VoDSL)	Enabling digital voice transmission identical to voice over internet protocol but using digital subscriber services as the transport.

Term	Definition
Voice over Frame Relay (VoFR)	A high-speed communications technology used to connect voice applications. It is a way of sending information over a wide area network (WAN) that divides the information into frames or packets. Each frame has a label that the network uses to decide the destination of the frame.
Voice over Internet Protocol (VoIP) Positioning Center (VPC)	The element that provides routing information to support the routing of VoIP emergency calls, and cooperates in delivering location information to the PSAP over the existing ALI DB infrastructure. The VPC supports access to the routing data in the ERDB.
Voice over Internet Protocol (VoIP) Service Provider (VSP)	Operates the network service and equipment that provides call processing for Voice over IP subscribers.
Voice over Internet Protocol, Voice over IP (VoIP)	Provides distinct packetized voice information in digital format using the Internet Protocol. The IP address assigned to the user's telephone number may be static or dynamic.
Voice over Packet (VoP)	Packetized voice communication over a data network.
Voice over the Internet	Transmit voice with varying consistency depending on overall traffic and engineering of the Internet circuits.
Voice Service Provider (VSP)	Operates the network equipment that provides call processing for Voice over Internet Protocol subscribers.
VoIP Endpoint (VEP)	The endpoint IP Device that is used to originate an emergency call.
VoIP Positioning Center (VPC)	The VoIP Positioning Center (VPC) is the element that provides routing information to support the routing of VoIP emergency calls, and cooperates in delivering location information to the PSAP over the existing ALI DB infrastructure. The VPC supports access to the routing data in the ERDB.
VPC Operator	Operates VPC network element(s).
Web	World Wide Web or Internet.



Term	Definition
Web Service Description Language (WSDL)	The Web Services Description Language (WSDL) is an XML-based language used to describe the services a business offers and to provide a way for individuals and other businesses to access those services electronically. WSDL is the cornerstone of the Universal Description, Discovery, and Integration (UDDI) initiative spearheaded by Microsoft, IBM, and ARIBA. UDDI is an XML-based registry for businesses worldwide, which enables businesses to list themselves and their services on the Internet. WSDL is the language used to do this. WSDL is derived from Microsoft's Simple Object Access Protocol (SOAP) and IBM's Network Accessible Service Specification Language (NASSL). WSDL replaces both NASSL and SOAP as the means of expressing business services in the UDDI registry.
Well-formed XML instance document	The instance document satisfies XML syntax rules
Wide Area Network (WAN)	Network using common carrier-provided lines that covers and extended geographical area.
Wireless	Means any Commercial Mobile Radio Service (CMRS) that falls under the FCC's Docket 94-102 requirement for wireless enhanced 9-1-1 service.
Wireless Access Point (WAP)	http://en.wikipedia.org/wiki/Wireless_access_point , provides the following definition: "In <u>computer networking</u> , a wireless access point (WAP or AP) is a device that connects wireless communication devices together to form a <u>wireless network</u> . The WAP usually connects to a <u>wired network</u> , and can relay data between wireless devices and wired devices. Several WAPs can link together to form a larger network that allows " <u>roaming</u> ". (In contrast, a network where the client devices manage themselves – without the need for any access points – becomes an <u>ad-hoc network</u> .) Wireless access points have IP addresses for configuration." Refer also to http://www.ieee802.org/11/
Wireless Fidelity (WiFi)	A common name for IEEE 802.11 wireless broadband access networks.
Wireless Local Loop	A "local loop" is a telephone company's distribution of PSTN connectivity to end users within a small (e.g., less than one square mile) geographic area. When that connectivity is done via two-way radio transmission that is a "wireless local loop".
Wireless Network Controller (WNC)	A wireless network controller manages a group of wireless access points in a wireless LAN. In this type of network the wireless network controller is able to control wireless access point hand-overs to improve the overall performance of the network.

Term	Definition
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% of the time and Selective Routing based upon 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 Radio (ESMR).
Withdrawn	Date and time stamp a request is cancelled by the originator.
Workspace	The physical building area where work is normally performed. This is a net square footage measurement which includes hallways, conference rooms, rest rooms, and break rooms but does not include wall thickness, shafts, heating/ventilating/air conditioning equipment spaces, mechanical/electrical spaces or similar areas where employees do not normally have acc
Worldwide Interoperability for Microwave Access (WiMAX)	A brand name and a certification mark for IEEE 802.16 compliant products.
World Wide Web (WWW)	The public internet.
eXtensible Markup Language (XML)	An internet specification for web documents that enables tags to be used that provide functionality beyond that in Hyper Text Markup Language (HTML). Its reference is its ability to allow information of indeterminate length to be transmitted to a PSAP call taker or dispatcher versus the current restriction that requires information to fit the parameters of pre-defined fields.
eXtensible Markup Language (XML) instance document	An XML document that conforms to a given schema, as a specific instance of that schema.
eXtensible Markup Language (XML) Schema	The formal document definition (structure, content type and constraints) describing a class of XML instance documents. There are various XML schema languages, but in this document, all schemas are assumed to be defined using the W3C XML Schema definition language [5].

<i>Term</i>	<i>Definition</i>
<i>X,y</i>	Shorthand expression for coordinates that identify a specific location in two dimensions representing latitude and longitude.
<i>X.25</i>	Defined network layer protocol that is used in packet-data switching to establish, maintain, and clear virtual circuit connections between an ISDN terminal and a destination in the packet-switched network

3 Acronyms

<i>Acronym</i>	<i>Definition</i>
3GPP	3 RD Generation Partner Project
3GPP2	3 rd Generation Partnership Project 2
AAR	Association of American Railroads
ACB	All Circuits Busy
ACCDEN	Access Denied
ACD	Automatic Call Distribution, Automatic Call Distributor
can	Automatic Collision Notification
ADA	Americans with Disabilities Act
ADEA	Age Discrimination in Employment Act
ADSL	Asymmetrical Digital Subscriber Line
AEAN	Alternate Emergency Access Number
AES	Advanced Encryption Standard
AIP	Access Infrastructure Provider
ALE	Access Location Entity
ALEC	Alternate Local Exchange Carrier
ALI	Automatic Location Identification
ALI DB	Automatic Location Identification Database
AMPS	Advanced Mobile Phone Service
ANI	Automatic Number Identification
ANSI	American National Standards Institute
AOA	Angle of Arrival
AoR	Address of Record
API	Application Programming Interface
APU	Answering Position Unit
AQS	NENA ALI Query Service
AQSI	ALI Query Services Interface
ARIB	Association of Radio Industries and Businesses
ARP	Address resolution Protocol
ASCII	American Standard Code for Information Exchange
ASL	American Sign Language
ASLARRA	American Short Line and Regional Railroad Association
ASP	Application Service Provider
ASRR	Average Sector Radius Range
ATA	Analog Terminal Adapter
ATIS	Alliance for Telecommunications Industry Solutions
ATM	Asynchronous Transfer Mode
AVL	Automatic Vehicle Location
BASK	Binary Amplitude Shift Key
BCD	Binary Coded Decimal

BellCore	Bell Communications Research
BLI	Busy Line Interrupt
BLV	Busy Line Verification
BOC	Bell Operating Company
BOOTP	Bootstrap Protocol
BPL	Broadband Over Power Lines
BRAS	Broadband Remote Access Server
BRI	Basic Rate Interface
BUI	Building Unit Identifier
C-TAG	The innermost VLAN tag as defined in IEEE 802.1ad
CA	Communication Assistant
CAD	Computer Aided Dispatch
CAMA	Centralized Automatic Message Accounting
CAP	Competitive Access Provider
CART	Child Abduction Response Team
CAS	Call-path Associated Signaling, Channel Associated Signaling
CBN	Call Back Number
CBR	Constant Bit Rate
CCH	Computerized Criminal History
CCS	Common Channel Signaling or Hundred Call Seconds
CCSA	China Communications Standards Association
CCS7	Common Channel Signaling 7
CDMA	Code Division Multiple Access
CdPN	Called Party Number
CDR	Call Detail Record
CGI	Common Gateway Interface
CGL	Calling Geodetic Location Parameter
CgPN	Calling Party Number
CHGN	Charge Number Parameter
CID	Company Identification/Identifier
CISC	Canadian Radio-Television and Telecommunications Commission Interconnection Steering Committee
CLEC	Competitive Local Exchange Carrier or Certified Local Exchange Carrier
CLID	Calling Line Identification
CLLI	Common Language Location Identifier
CMRS	Commercial Mobile Radio Service
CMTS	Cable Modem Termination System
CO	Central Office
CODEc	Coder/EDCoder or Compression/DECompression
COG	Council of Government
COLT	Cell on Light Truck

CONUS	Continental United States
CoS	Class of Service
COW	Cell on Wheels
CPAS	Cellular Priority Access Service
CpCAT	Calling Party CATegory
CPE	Customer Premises Equipment
CPN	Calling Party's Number
CPU	Central Processing Unit
CRDB	Coordinate Routing Data Base
CRN	Contingency Routing Number
CRT	Cathode Ray Tube
CRTC	Canadian Radio-television and Telecommunications Commission
CSP	Communications Service Provider
CTI	Computer Telephone Integration
CTIA	Cellular Telephone Industry Association
CTX-IP	Centrex-based Internet Protocol
CW	Call Waiting
dB	Decibels
DB	Deaf-Blind
DBMS	Data Base Management System
DCE	Data Communications Equipment
DHCP	Dynamic Host Control Protocol (i2) Dynamic Host Configuration Protocol
DHS	United States Department of Homeland Security
DID	Direct Inward Dialing
DMS	Data Management System
dMSID	Default Mobile Station Identity
DMT	Discrete Multi Tone
DN	Directory Number
DNS	Domain Name Server (or Service or System)
DOCSIS	Data over Cable Service Interface Specification
DOD	Direct Outward Dialing
DOE	United States Department of Energy
DOJ	United States Department of Justice
DOL	United States Department of Labor
DOS	Disk Operating System, Denial of Service
DOT	Department of Transportation
DP	Dial Pulse
DRP	Disaster Recovery Plan
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Multiplexer
DSP	Digital Signal Processing



DTE	Data Terminal Equipment
DTMF	Dual Tone Multi-Frequency
E9-1-1	Enhanced 9-1-1
E9-1-1M	Mobile E9-1-1, Mobile Emergency Service
EAS	Emergency Alert Systems
ECOM	Essential Communications During Emergencies
ECR	Emergency Call Register
ECRF	Emergency Call Routing Function
EDGE	Enhanced Data rates for GSM Evolution
EEOC	Equal Employment Opportunity Commission
EENA	European Emergency Number Association
EFM	Ethernet in the First Mile
EIA	Electronic Industry Association
EIA RS-232	Electronic Industry Alliance Recommended Standard 232 (serial interface)
ELA	Emergency Line Access
ELD	Electro-Luminescent Display
ELIN	Emergency Location Identification Number
ELT	English Language Translation
EM	Emergency Message
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
EMTEL	Emergency Telecommunications
ENS	Emergency Notification Systems
EO	End Office
EPROM	Erasable Programmable Read-Only Memory
ERDB	Emergency Services Zone Routing Database
ERL	Emergency Response Location
ES	Emergency Service
ESA	Emergency Stand Alone
ESC	Emergency Services Call
ESCO	Emergency Service Central Office
ESGW	Emergency Services Gateway
ESIF	Emergency Services Interconnection Forum
ESInet	Emergency Services IP Network
ESME	Emergency Services Message Entity
ESMR	Enhanced Specialized Mobile Radio
ESN	Emergency Service Number, Electronic Serial Number, Emergency Service Network
ESNE	Emergency Services Network Entity/Element
ESQK	Emergency Service Query Key
ESP	Emergency Services Provider, or Emergency Services Protocol
ESRD	Emergency Services Routing Digit

ESRI	Environmental Services Research Incorporated
ESRK	Emergency Services Routing Key
ESRN	Emergency Service Routing Number/Name
ESRP	Emergency Services Routing Proxy
ESZ	Emergency Service Zone (same as ESN)
ETB	Emergency Transport Backup
ETNS	Emergency Telephone Notification System
ETSI	European Telecommunications Standards Institute
EUMI	End User Move Indicator
FAQ	Frequently Asked Questions
FCC	Federal Communications Commission
FDD	Frequency Division Duplex
FDDI	Fiber Optic interface
FGD	Feature Group D
FHA	United States Federal Highway Administration
FLSA	Fair Labor Standards Act
FMLA	Family and Medical Leave Act
FOC	Function of Change
FQDN	Fully Qualified Domain Name
FRA	United States Federal Railway Administration
FTP	File Transfer Protocol
FTTA	Fiber To The Access
FTTH	Fiber To The Home
FTTP	Fiber To The Premises
FX	Foreign Exchange
GA	Go ahead
GAP	Global Address Parameter
GA SK	Go Ahead Stop Keying (Go Ahead or Ready to Hang Up)
GDP	Generic Digit Parameter
GIS	Geographic Information System
GML	Geographic Markup Language
GMLC	Gateway Mobile Location Center (MLC)
GMT	Greenwich Mean Time
GNP	Geographic Number Portability
GOS	Grade of Service
GPOSDIR	GeoPositionDirective INVOKE (see JSTD-036)
Gposdir	GeoPositionDirective RETURN RESULT (see JSTD-036)
GPOSREQ	GeoPositionRequest INVOKE (see JSTD-036)
gposreq	GeoPositionRequest RETURN RESULT (see JSTD-036)
GPRS	General Packet Radio Service
GPS	Global Positioning System



GSM	Global Standard for Mobile Communication
HCO	Hearing Carry Over
HELD	HTTP-Enabled Location Delivery protocol
HFC	Hybrid Fiber Coax
HDSL	High bit rate Digital Subscriber Line
HDTV	High-Definition Television
HID	Hardware Identity
HIPAA	Health Insurance Portability and Accountability Act
HLR	Home Location Register (see ANSI-41)
HOH	Hard of Hearing
HTML	Hyper Text Markup Language
HTTP	Hyper Text Transfer Protocol
HVAC	Heating Ventilation and Air Conditioning
Hz	Hertz
IAB	Internet Architecture Board
IAD	Integrated Access Device
IAM	Initial Address Message
IANA	Internet Assigned Numbers Authority
ICANN	Internet Corporation Assigned Names and Numbers
ICO	National 9-1-1 Implementation and Coordination Office
ICR/IRR	Instant Call Recorder/Instant Recall Recorder
ICS	Incident Command System
ID	Identified
IEEE	Institute of Electrical and Electronics Engineers
IESG	Internet Engineering Steering Group
IETF	Internet Engineering Task Force
IID	Incident Identification
ILEC	Incumbent Local Exchange Carrier
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Station Identity
IMTC	International Multimedia Teleconferencing Consortium
IN	Intelligent Network
INP	Interim Number Portability
IP	Internet Protocol
IPBX (or IP PBX)	Internet Protocol Private Branch Exchange
IP-COAD	Internet Protocol-Coordination Ad-Hoc Committee
IPI	Imagery and Geospatial Plans and Policy Branch
ipm	Interrupts per minute
IpoE	Internet Protocol over Ethernet
IPSec	Internet Protocol Security



LSR	Local Service Request
LSSGR	LATA Switching Systems Generic Requirements
MapInfo	Mobile Information (see JSTD-036) (MapInfo is a trademark registered name!)
MCC	Mobile Competence Centre
MDC	Mobile Data Communications
MDF	Main Distribution Frame
MDN	Mobile Directory Number
MDT	Mobile Data Terminal
MEC	Missing and Exploited Children
MEID	Mobile Equipment Identity
MEP	Message Exchange Pattern
MF	Multi-Frequency
MGCP	Media Gateway Control Protocol
MIN	Mobile Identified Number, Mobile Identification Number
MLP	Mobile Location Protocol
MIS	Management Information System
MLTS	Multi-Line Telephone System
MMTA	MultiMedia Telecommunications Association
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MP	Mobile Phone
MPC	Mobile Positioning Center
MPCAP	Mobile Positioning Capability (see JSTD-036)
MPLS	Multi-Protocol Label Switching
MPOA	Multi-Protocol Over ATM
ms	Milliseconds
MS	Mobile Station
MSA	Metropolitan Statistical Area
MSC	Mobile Switching Center
MSAG	Master Street Address Guide
MSC	Mobile Switching Center
MSID	Mobile Station Identity
MSISDN	Mobile Station ISDN Number
MSO	Mobile Switching Office
MSRN	Mobile Station Routing Number
MSS	Mobile Satellite Services
MTA	Multimedia Terminal Adapter
MTID	Mobile Terminal Identity
MTP	Message Transfer Point
MTSO	Mobile Telephone Switching Office
NAD83	North American Datum 83

NAI	Network Access Identifier
NANP	North American Numbering Plan
NANPA	North American Numbering Plan Administration
NARUC	National Association of Regulatory Utility Commissioners
NAS	Network Access Server
NASNA	National Association of State 9-1-1 Administrators
NAT	Network Address Translation
NBMA	Non-Broadcast Multiple Access
NCAS	Non Call-path Associated Signaling
NCIC	National Crime Enforcement Center, National Crime Information Center
NCMEC	National Center for Missing and Exploited Children
NECA	National Exchange Carrier Association
NENA	National Emergency Number Association
NFPA	National Fire Protection Association
NGA	United States National Geospatial Intelligence Agency
NG9-1-1	Next Generation 9-1-1
NGESN	Next Generation Emergency Services Network
NHTSA	National Highway Traffic Safety Administration, United States Department of Transportation
NID	Network Interface Device
NIP	NYNEX Information Publication
NIS	Not In Service
NIST	National Institute of Standards and Technology
NNSA	United States National Nuclear Security Administration
NOCC	Network Operations Control Center (for wireless carriers)
NORAD	North American Aerospace Defense Command
NPA	Numbering Plan Area
NPAC	Number Portability/Pooling Administration Center
NPD	Numbering Plan Digit
NPRM	Notice of Proposed Rulemaking
NRC	National Reliability Council
NRIC	National Reliability and Interoperability Council
NRF	No Record Found
NRTL	National Recognized Testing Laboratory
NSI	Non-Subscriber Initialized (as in phones)
NSP	Network Service Provider
NTIA	National Telecommunications and Information Administration, United States Department of Commerce
NTP	Network Time Protocol
NTSB	United States National Transportation Safety Board
NXX	Telephone Numbering Code for Exchange Code or Telephone exchange code



OCN	Operating Company Number
OEM	Original Equipment Manufacturer
OID	Operations Information Document
OLI	Originating Line Identification parameter
OMA	Open Mobile Alliance
ORREQ	Origination Request Invoke (see JSTD-036)
Orreq	Origination Request RETURN RESULT (see JSTD-036)
OSI	Open Systems Interconnection
OST	United States Office of Secure Transportation
P.01	Probability of one (1) call in one (100) hundred calls being blocked
Pali	Pseudo Automatic Location Identification
PAM	PSAP to ALI Message specification
PAN	Personal Area Network
Pani	Pseudo Automatic Number Identification
PAS	Priority Access Service
PBX	Private Branch Exchange
P-CBN	PSAP Call Back Number
PCIA	Personal Communications Industry Association
PCS	Personal Communications Service
PCSC	Personal Communications Switching Center
PDA	Personal Digital Assistant
PDE	Position Determining Entity
Pesn	Pseudo Electronic Serial Number
PGID	Paging Identity
PIDF	Presence Information Data Format
PIDF-LO	Presence Information Data Format – Location Objects
PON	Passive Optical Network
POS	Packet Over SONET
PPP	Point-to-Point Protocol
PPPoA	Point-to-Point Protocol over ATM
PPPoE	Point-to-Point Protocol over Ethernet
PRI	Primary Rate Interface/ISDN
PSA	Public Safety Agency, Public Service Announcement
PSALI	Private Switch ALI
PSAP	Public Safety Answering Point or Primary Public Safety Answering Point
PSAP-ECR	Public Safety Answering Point – Emergency Call Register
PSQM	Perceptual Speech Quality Measurements
PSTN	Public Switched Telephone Network
PTSC	Packet Technologies and Services Committee
PUC	Public Utility Commission
PVC	Permanent Virtual Circuit

<i>Q or QQ</i>	Indicates a question
<i>QoS</i>	Quality of Service
<i>RADIUS</i>	Remote Authentication Dial-In User Service
<i>RANP</i>	Regional Access Network Provider
<i>RAS</i>	Remote Access Server
<i>RCC</i>	Remote Call Center or Rate Center Consolidation
<i>RDO</i>	Route Discovery Operator
<i>RF</i>	Radio Frequency
<i>RFC</i>	Request for Comments
<i>RFI</i>	Request for Information
<i>RFP</i>	Request for Proposal
<i>RFQ</i>	Request for Quote
<i>RG</i>	Routing Gateway
<i>RMS</i>	Records Management System
<i>RNA</i>	Routing Number Authority
<i>ROUTREQ</i>	Route Request (see ANSI-41)
<i>RPC</i>	Remote Procedure Call
<i>RSU</i>	Remote Switching Unit
<i>RSVP</i>	Resource Reservation Protocol
<i>RTCP</i>	Real Time Control Protocol
<i>RTP</i>	Real Time Transport Protocol
<i>SAE</i>	Society of Automotive Engineers
<i>SBS</i>	Straight Binary Seconds
<i>SC</i>	Service Consumer
<i>SCCP</i>	Signaling Connection Control Part
<i>SCP</i>	Service Control Point (see ANSI-41) or Switching Control Point
<i>SCTP</i>	Stream Control Transport Protocol
<i>SDO</i>	Standards Development Organization
<i>SDSL</i>	Symmetrical Digital Subscriber Line
<i>SFG</i>	Simulated Facility Group
<i>SFTP</i>	Secure Shell File Transfer Protocol
<i>SIF</i>	Signaling Information Field
<i>SIO</i>	Service Information Octet
<i>SIP</i>	Session Initiation Protocol
<i>SK</i>	Stop keying
<i>SKSK</i>	Stop keying, stop keying. Officially ends a TDD conversation
<i>SLA</i>	Service Level Agreement
<i>S/MIME</i>	Secure Multipurpose Internet Mail Extensions
<i>SMDPP</i>	SMS Delivery Point to Point INVOKE (see ANSI-41)
<i>SMTF</i>	Simple Mail Transfer Protocol
<i>SNA</i>	System Network Architecture

SNL	Sandia National Laboratories
SNTP	Simple Network Time Protocol
SOAP	Simple Object Assess Protocol
SOHO	Small Office/Home Office
SOI	Service Order Input
SONET	Synchronous Optical NETwork
SOP	Standard Operating Procedures
SP	Service Provider
SPCS	State Plane Coordinate Systems
SPID	Service Provider Identifier
SPVC	Soft Permanent Virtual Circuit
SR	Selective Routing, Selective Router [a.k.a., E9-1-1 Tandem, or E9-1-1 Control Office]
SRDB	Selective Routing Data Base
SS	Serving System
SS-ECR	Serving System – Emergency Call Register
SSH	Secure Shell
SSH-2	Secure Shell, Version 2
SSP	Signal Switching Point
SS7	Signaling System 7
ST	Start
S-TAG	The outermost VLAN tag as defined in IEEE 802.1ad
STCP	Stream Control Transport Protocol
STP	Start Prime or Signal Transfer Point
STUN	Simple Transversal of Universal Datagram Protocol (UDP) Network Address Translations (NATs)
SVC	Switched Virtual Circuit
TA	Technical Advisory (published by Bellcore) or Technical Assistance
TC	Telecommunications Carrier
TCAP	Transaction Capabilities Application Part
TCP	Transport/Transmission Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TCU	Telematics Control Unit
TDD	Telecommunications Device for the Deaf or Time Division Duplex Mode
TDM	Time Division Multiplexing
TDMA	Time Division Multiple Access
TDOA	Time Difference of Arrival
TELCO	Telephone Company
TIA	Telecommunications Industry Association
TID	Technical Information Document (published by NENA) or Technical Issues Director
TLDN	Temporary Long Distance Number
TLS	Transport Layer Security

TMSI	Temporary Mobile Station Number
TN	Telephone Number
TR	Technical Reference (published by Bellcore)
TR 45.2	Telecommunications Industry Association Subcommittee responsible for “Wireless Intersystem Technology – Mobile and Personal Communications Standards”
TRD	Technical Requirements Document
TRS	Telecommunications Relay Service
TSP	Telephone Service Priority or Telecommunications Service Provider, Telematics Service Provider
TTA	Telecommunications Technology Association
TTC	Telecommunication Technology Committee
TTL	Transistor to Transistor Logic
TTY	Teletypewriter (a.k.a. TDD, Telecommunications Device for the Deaf and Hard-of-Hearing)
TU	Telematics Unit
TVSS	Transient Voltage Surge Suppression
TVW	Testing Validation Worksheet
TWC	Three-Way Calling
UA	User Agent
UAC	User Agent Client
UAS	User Agent Service
UBR	Unavailable Bit Rate
UDDI	Universal Description, Discovery and Integration
UDP	User Datagram Protocol
UIM	User Identity Model
UL	Underwriters Laboratories
uLPN	Unique Local Public Safety Number
UNI	Unbundled Network Interface
UPS	Uninterruptible Power Supply
URI	Uniform Resource Identifier
URL	Uniform Resource Locator (location sensitive)
URN	Uniform Resource Name (location insensitive)
USF	Universal Service Fund
USGS	United States Geological Survey
USMC	United States Marine Corps
USNG	United States National Grid
USNO	United States Naval Observatory
USPS	United States Postal Service
USTA	United States Telephone Association
USTSA	United States Telecommunications Suppliers Association
UTC	Universal Coordinated Time

UTRA	Universal Terrestrial Radio Access
VBRnrt	Variable Bit Rate non-real time
VBRrt	Variable Bit Rate real-time
VC	Virtual Circuit
VCI	Virtual Circuit Identifier
VCO	Voice Carry Over
VDB	Validation Database
VDSL	Very high-speed Digital Subscriber Line
VE2	Voice over Internet Protocol E2 Interface
VEDS	Vehicle Emergency Data Sets
VEP	VoIP End Point
VESA	Valid Emergency Services Authority
VF	Validation Function
VFG	Virtual Facility Group
VIN	Vehicle Identification Number
VLAN	Virtual LAN
VLR	Visitor Location Register
VoATM	Voice over ATM
VoDSL	Voice over Digital Subscriber Link
VoFR	Voice over Frame Relay
VoIP	Voice over Internet Protocol
VON	Voice over Network
VoP	Voice over Packet
VPC	VoIP Positioning Center
VPI	Virtual Path Identifier
VPN	Virtual Private Network
VSP	VoIP Service Provider
W3C	World Wide Web Consortium
WAENS	Wide Area Emergency Notification System
WAN	Wide Area Network
WAP	Wireless Access Point
WCM	Wireline Compatibility Mode
WGS 84	World Geodetic System 1984
WiFi®	Wireless Fidelity
WiMAX	Worldwide Interoperability for Microwave Access
WNC	Wireless Network Controller
WSDL	Web Service Definition Language
WSP	Wireless Service Provider
WWW	World Wide Web
XML	eXtensible Markup Language
XSD	W3C XML Schema Definition

XXXXX	Indicates an error or mistake in typing (erasing the error)
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