NENA

Master Glossary

Of

9-1-1 Terminology

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NENA recognizes that there may other ways to define the terms and abbreviations in this master glossary, but the definitions listed have the meaning that NENA is using in our documents.

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NENA Master Glossary of 9-1-1 Terminology
NENA-ADM-000.23-2020
DSC Approval: 01/20/2020

Prepared by:
National Emergency Number Association (NENA), Development Group Administrative Committee, References Working Group

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NENA Development Steering Council Approval Date: **01/20/2020**

NENA recognizes the following industry experts and their employers for their contributions in development of this document.

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Table of Contents

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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.

To find publicly available additional information about any of these terms, use your preferred Internet search tool (Google, Bing, Yahoo, etc.). To find instances where a term is used within NENA documents, use the search function provided at http://www.nena.org. For best results enter the term within quotes (example "any 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/Reissue

NENA reserves the right to modify this document. Upon revision, the reason(s) will be provided in the table below.

Document #	Approval Date	Reason for Issue/Reissue
Original	March 1998	Initial Document
2	October 2002	Updated to include new terms utilized within NENA standards documents and to adjust existing definitions to comply with technology improvements.
3	February 2003	Updated to include new terms utilized in revised 02-011 standard document and new 06-002, 06-003 standard documents.
4	October 2004	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;

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Document #	Approval Date	Reason for Issue/Reissue
		• 05-501 SS7 guidelines for MSC to Selective Router Connectivity; • 07-501 E9-1-1 and Emerging Technologies.
5	February 2005	Updated to reflect Operations Committees input and use of this document as well as Technical Committees.
6	November 2005	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.
7	April 2006	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
8	November 2006	Updated to include terms and acronyms utilized in the following documents:

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Document #	Approval Date	Reason for Issue/Reissue
		• 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 • 58-502, VoIP Funding and Regulatory Issues
9	03/30/2007	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

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Document #	Approval Date	Reason for Issue/Reissue
		• 53-501, NENA Hazard and Vulnerability Analysis Operation Information Document • 53-502, NENA Resources Analysis Operations Information Document
10	06/01/2007	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
11	05/16/2008	Updated to include terms and acronyms utilized in the following documents: • 00-002, NENA Standards Advisory Committee (SAC) Membership, Roles and Responsibilities Document, Versions 1 & 2 • 01-001 Technical Committee Organizational Structure and Document Development & Approval Process, Version 4 • 02-010, NENA Standard Formats & Protocols for ALI Data Exchange, ALI Response & GIS Mapping • 02-013, NENA Data Standards for the Provisioning & Maintenance of MSAG Files to VDBs & ERDBs, V2

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Document #	Approval Date	Reason for Issue/Reissue
		• 02-014, NENA GIS Data Collection and Maintenance Standards • 03-004, NENA Standard for E9-1-1 Functional Entity Model Version 2 • 03-008, NENA Recommended Standard for E9-1-1 Default Assignment and Call Routing Functions • 08-002, NENA Functional and Interface Standards for Next Generation 9-1-1 (i3) • 51-001, NENA Operations Committee Organization and Document Development & Approval Process • 52-502, NENA Video Relay Service & IP Relay Service PSAP Interaction OID • 53-504, NENA Drills and Exercises OID • APCO-NENA-ANS1-102-2-2010, APCO-NENA Service Capability Criteria Rating Scale • 56-002, NENA Standard for NORAD/FAA Notification: Airborne Events Version 2 • 56-506, NENA PSAP Site Selection Criteria Operations Information Document • 57-503, NENA Procedures for Notification of ERDB and VPC Operators of ESN Changes by 9-1-1 Administrator
12	07/15/2009	Updated to include terms and acronyms utilized in the following documents: • 2-001, NENA Information Document for Synchronizing Geographic Information System databases with MSAG & ALI, Version 1 • 01-001, Technical Committee Organizational Structure and Document Development & Approval Process, Version 4.1 • 02-013, NENA Data Standards for the Provisioning and Maintenance of MSAG Files to VDBs and ERDBs • 02-502, Company ID Registration Service, Version 3

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Document #	Approval Date	Reason for Issue/Reissue
		• 03-507, ESQK Guidelines for VoIP to E9-1-1 Connectivity • 06-502, Industry Common Mechanism for MLTS E9-1-1 Caller Information • 06-750, Model Legislation, Enhanced 9-1-1 for Multi-Line Telephone Systems, Version 2 (Converted from 06-501) • 52-001, E9-1-1 TTY Training, Version 2 • 53-506, NENA Intra-Agency Agreements Model Recommendations, Version 1 • 53-507, NENA Virtual PSAP Management, Version 1 • 56-006, Emergency Call Processing Protocol Standard Model • 56-507, NENA Railroad & PSAP Interaction, Version 1
13	03/17/2010	Updated to provide new numbering structure for Joint Committee developed documents in section 1.5 and to include terms and acronyms utilized in the following documents: • 03-508, NENA Impacts of Using a Common Trunk Group to Carry Calls of Multiple Service Types into a Legacy Selective Router, Version 1 • 56-508, NENA Protocol for Handling Calls Regarding Human Trafficking, Version 1 • 70-001, NENA Registry System Standard, Version 1 • 71-001, NENA Standard for NG9-1-1 Additional Data Version 1
14	09/29/2010	Updated to include terms and acronyms utilized in the following documents: • 71-502, An Overview of Policy Rules for Call Routing and Handling in NG9-1-1
15	02/24/2011	Updated to reflect Operations Committees input and use of this document as well as Technical Committees.

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Document #	Approval Date	Reason for Issue/Reissue
16	08/21/2011	Updated to include terms and acronyms utilized in the following documents: • 08-003, Detailed Functional and Interface Specification for the NENA i3 Solution – Stage 3 • 57-750, NG9-1-1 System and PSAP Operational Features and Capabilities Requirements • 56-509, NENA/APCO Best Practices Model for Providing Emergency Medical Dispatch Services Operations Information Document
NENA ADM-000.17-2012	12/04/2012	Updated to include terms and acronyms utilized in the following documents: • 08-506 v1, NENA Emergency Services IP Network Design for NG9-1-1 • 75-502 v1, Next Generation 9-1-1 (NG-SEC) Audit Checklist • ESIF Proposal • Edits to reflect DSC/NDG structure
NENA ADM-000.18-2013	09/09/2013	Updated to include terms and acronyms utilized in the following documents: • NENA-INF-001 Social Networking in 9-1-1 PSAPs • NENA-INF-002 Effect of Mass Calling Events • NENA-INF-003 Potential Points of Demarcation in NG9-1-1 Networks Information Document • NENA-STA-001 NENA Suicide Prevention Standard • NENA-STA-002 NENA Standard on 9-1-1 Acute/Traumatic and Chronic Stress Management • NENA-STA-003 NENA Standard for NG9-1-1 Policy Routing Rules • NENA-INF-004 NENA Operational Impacts of Devices and Sensors Information Document

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Document #	Approval Date	Reason for Issue/Reissue
NENA-ADM-000.19-2014	07/29/2014	A complete republication, including the addition of terms and acronyms utilized in the following recently approved documents: • NENA/APCO-INF-005 Emergency Incident Data Document (EIDD) Information Document • NENA-STA-004 Next Generation United States Civic Location Data Exchange Format (CLDXF) Standard And the removal of terms that were commonly understood, or not unique to 9-1-1 terminology.
NENA-ADM-000.20-2016	12/20/2016	Updated to include terms and acronyms utilized in the following documents: • NENA-STA-007.2-2014 (originally 54-002), NENA Hearing Standards for Telecommunicators • NENA-INF-009.1-2014, Requirements for a National Forest Guide Information Document • NENA-INF-012.2-2015 Inter-Agency Agreements Model Recommendations Information Document • NENA-INF-013.2-2015 (originally 52-502) Video Relay Service & IP Relay Service PSAP Interaction Information Document • NENA-INF-014.1-2015 NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1 • NENA-INF-017.2-2015 PSAP Disaster & Contingency Plans Model Recommendation • NENA-STA-009.2-2015 Mutual Aid Standard/Model Recommendation • NENA-ADM-001.2-2015 NENA Development Group Organizational Structure • NENA-ADM-002.3-2015 NENA Document Development and Approval Process

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Document #	Approval Date	Reason for Issue/Reissue
		• APCO/NENA ANS 3.105.1-2015 Minimum Training Standard for TTY/TDD Use in the Public Safety Communications Center • APCO/NENA ANS 1.107.1-2015 Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points • APCO / NENA ANS 1.105.2-2015 Standard for Telecommunicator Emergency Response Taskforce (TERT) Deployment • NENA/APCO-REQ-001.1.1-2016, NENA/APCO NG9-1-1 PSAP Requirements Document • NENA-REQ-002.1-2016, NENA Next Generation 9-1-1 Data Management Requirements • NENA-STA-013.2-2016 (originally 56-507, NENA Public Safety Communications & Railroad Interaction Standard Operating Procedures • NENA-INF-019.2-2016 (originally 53-501), NENA Hazard and Vulnerability Analysis Information Document • NENA-STA-010.2-2016 (originally 08-003), NENA Detailed Functional and Interface Standards for the NENA i3 Solution • NENA-INF-015.1-2016, NENA NG9-1-1 Security Information Document • NENA-STA-026.5-2016 (previously NENA 04-002, Issue 4), NENA PSAP Master Clock Standard Additional work: • Removed terms that were commonly understood, or not unique to 9-1-1 terminology • Moved abbreviations from rear to front of term. • Combined acronyms into terms table and provided definitions for all.

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Document #	Approval Date	Reason for Issue/Reissue
NENA-ADM-000.21-2017	08/08/2017	Updated to include terms and acronyms utilized in the following documents: • NENA-STA-005.1-2017 NENA Standards for the Provisioning & Maintenance of GIS Data to ECRF & LVF • NENA-INF-018.1-2017 NENA Non-Mobile Wireless Service Interaction Information Document • NENA-INF-015.1-2016 NG9-1-1 Security Information Document • NENA-INF-020.2-2017 (originally 53-503) NENA PSAP Survivability Information Document • APCO NENA 2.105.1-2017 NG9-1-1 Emergency Incident Document (EIDD) • NENA-INF-022.2-2017 NENA Protocol for Handling Calls Regarding Human Trafficking Information Document
NENA-ADM-000.22-2018	04/13/2018	Added EIDD/IDX FAQs. Updated to include terms and acronyms utilized in the following documents: • NENA-STA-012.2-2017, NENA Standard for NG9-1-1 Additional Data • NENA-INF-023.1-2017, NENA Call Blocking Information Document • NENA-REF-011.1-2018, EIDD& IDX Frequently Asked Questions (FAQ) • NENA-INF-016.2-2018, NENA Emergency Services IP Network Design Information Document
NENA-ADM-000.23-2020	01/20/2020	Updated to include terms and acronyms utilized in the following documents: • NENA-INF-010.2-2018, NENA Succession Planning Information Document • NENA-STA-006.1-2018, NENA Standard for NG9-1-1 GIS Data Model

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Document #	Approval Date	Reason for Issue/Reissue
		• NENA-STA-019.1-2018, NENA NG9-1-1 Call Processing Metrics Standard (ANSI Approved) • NENA-STA-027.3-2018 (Originally 04-001), NENA E9-1-1 PSAP Equipment Standards • NENA-INF-027.1-2018, NENA Information Document for Location Validation Function Consistency • NENA-STA-015.10-2018 (Originally 02-010), NENA Standard Data Formats for E9-1-1 Data Exchange & GIS Mapping • NENA-INF-017.3-2018, NENA Communications Center/PSAP Disaster and Contingency Plans Model Recommendation

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1.4 References

NENA documents will be registered by the NENA Executive Office and assigned an identifying number in accordance with the established document numbering plan.

AAA-XXX.Y

Where:

AAA = Document Type: STA (Standard) or INF (Information) or REQ (Requirements) or ADM (Administrative). If additional document types are created, they will follow this 3-character naming format.

XXX = Document Sequence Number with each Document Type starting with 001.

Y= Version Sequence Number starting with 1 for the first version.

Examples:

- The first Standard document would be NENA-STA-001.1
- The second version of NENA-STA-001.1 would be NENA-STA-001.2

- The first Information Document would be NENA-INF-001.1
- The third version of NENA-INF-001.2 would be NENA-INF-001.3

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Document Title
NENA-AAA-XXX.Y, Month Day, Year (zzzzzzz)

Where "zzzzzzz" is the term "Draft" until issued, "Original" if new, or the term "Draft Revision" if document is being revised, and "Revised" when issued.

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2 Terms/Abbreviations/Definitions

Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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 Authority	A State, County, Regional or other governmental entity responsible for 9-1-1 service operations. For example, this could be a county/parish or city government, a special 9-1-1 or Emergency Communications District, a Council of Governments or other similar body. Also known as: • AHJ (Authority Having Jurisdiction) • 9-1-1 Governing Authority • 9-1-1 Administrator	
9-1-1 Map Display	The part of the Human Machine Interface (HMI) that displays emergency event location and calling device location information on a map.	
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, software applications, databases, components and operations & management procedures required to provide 9-1-1 service. This may include commercial, governmental and human resources.	
Abandoned Call	An emergency Call in which the caller disconnects before the Call can be answered by the Public Safety Answering Point (PSAP). Ref: NENA-STA-019, NG9-1-1 Call Processing Metrics Standard	C

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Access Infrastructure Provider ID	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 database. Also known as: Company Identifier (ID) 1	
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 Provider	Any organization that arranges for an individual or an organization to have access to the Internet.	
ACD (Automatic Call Distributor)	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.	
ACL (Access Control List)	A security mechanism used to allow or deny access to either computing or networking systems (e.g., access through a firewall).	
AACN (Advanced Automatic Collision Notification)	A non-human initiated process to identify 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. Previously known as: ACN (Automatic Collision Notification) Ref: APCO AACN/VEDS Schema and Supporting Documentation	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Acoustic Coupler	In telecommunications, an acoustic coupler is an interface device for converting electrical signals to auditory signals and vice-a-versa, usually into and out of a traditional telephone handset. It consists of the rubber cups that hold the telephone handset on a TTY device.	
ADA (Americans with Disabilities Act)	Federal Legislation passed into law July 26, 1990, that prohibits discrimination on the basis of disabilities.	
Additional Data	Data that further describe the nature of how the call was placed, the person(s) associated with the device placing the call, or the location the call was placed from. There are three types of Additional Data: Additional Data for the Call, Additional Data for the Caller and Additional Data for the Location. Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	
Administrative ESN (Emergency Service Number)	A 3-5 digit number that represents an ESZ (Emergency Service Zone). It is stored in the MSAG (Master Street Address Guide) and is returned from an ALI (Automatic Location Identification) 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 (Customer Premises Equipment) to transfer calls to the correct responder. An Administrative ESN may not be the same as a routing ESN (Refer to Routing ESN)	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ADR (Additional Data Repository)	A data storage facility for Additional Data. It replaces and deprecates the concept of CIDB (Call Information Database). Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	C
AEAN (Alternate Emergency Access Number)	A 10-digit unlisted number, answered on a 24/7 basis, used to receive VoIP (Voice over Internet Protocol) 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. 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.	
AES (Advanced Encryption Standard)	A Federal Information Processing Standard (FIPS) approved cryptographic algorithm that is used to protect electronic data. Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
AFLT (Advanced Forward Link Trilateration)	A type of handset-based position location technology. Unlike A-GPS, AFLT does not use GPS satellites to determine location. To determine location, the phone takes measurements of signals from nearby cellular base stations (towers) and reports the time/distance readings back to the network, which are then used to triangulate an approximate location of the handset. In general, at least three surrounding base stations are required to get an optimal position fix. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
Agency	In NG9-1-1, an organization that is connected directly or indirectly to the ESInet. Public safety agencies are examples of Agency. An entity such as a company that provides a service in the ESInet can be an Agency. Agencies have identifiers and credentials that allow them access to services and data. Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	
Agency Identifier	A domain name for an agency used as a globally unique identifier. Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Agent	In NG9-1-1, an Agent is an authorized person - employee, contractor or volunteer, who has one or more roles, in an Agency. An Agent can also be an automaton in some circumstances (e.g. an IMR answering a call). Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	
A-GPS (Assisted-Global Positioning System)	A system that often significantly improves the startup performance—i.e., time-to-first-fix (TTFF)—of a GPS satellite-based positioning system. A-GPS is extensively used with GPS-capable cellular phones, as its development was accelerated by the U.S. FCC's 911 requirement to make cell phone location data available to emergency call dispatchers. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
AIP (Access Infrastructure Provider)	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. Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ALE (Access Location Entity)	A network entity or function that provides network measurements to a LIS allowing the LIS to correlate a device with a physical location. Ref: NENA 08-505 Recommended Methods for Location Determination to Support IP-Based Emergency Services Technical Information Document	
ALI (Automatic Location Identification)	The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone and supplementary emergency services information of the location from which a call originates. Related Terms: **ALI Request** A query for an ***ALI*** record sent from the ***PSAP*** to the ALI database. **ALI Retrieval** The process by which a ***PSAP*** queries an ***ALI*** database with an ALI Request and receives a response with location and other available information. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	
ALRS (Agency Locator Record Store)	A web service that, when presented with an agency locator ***URI***, returns the agency locator record.	
Alternate Address Record	The Postal equivalent to the ***MSAG*** or any other alternate address required (i.e. an alias street name – John Carpenter Freeway vs. Highway 121).	
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	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
ASL (American Sign Language)	A visual-spatial language based on hand shape, position, movement, and orientation of the hands in relation to each other and the body accompanied by facial expressions that are equivalent to tone of voice. Ref: NENA Video Relay Service & IP Relay Service PSAP Interaction Information Document is NENA-INF-013.2-2015 (originally 52-502)	A
ANI (Automatic Number Identification)	Telephone number associated with the call origination, originally associated with the access line of the caller. See pANI. Related Terms: **ANI Controller** A stand-alone CPE component which provides the ANI decoding and function key control for 9-1-1 service. **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. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	C
ANS (American National Standard)	A standard document approved by ANSI.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ANSI (American National Standards Institute)	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. www.ansi.org	
Answering Position	The workstation at which 9-1-1 calls are answered and responded to by the Telecommunicator. Also known as: Attendant Position	
AOA (Angle of Arrival)	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.	
API (Application Programming Interface)	A set of routines, protocols, and tools for building software applications. The API specifies how software components should interact and APIs may be used when programming graphical user interface (GUI) components.	
AQS (ALI Query Service)	The NENA XML schema that defines the ALI interface between the ALI Database and the PSAP. Ref: NENA 04-005 ALI Query Service Standard	
ASL Gloss (American Sign Language Gloss)	The reference to "ASL gloss" is whenASL (American Sign ***Language*** is communicated through typing – as on a TTY, SMS in Text-to-911, or Real-Time Text – and many of the visual elements crucial to clear communications are lost. Ref: NENA Video Relay Service & IP Relay Service PSAP Interaction Information Document is NENA-INF-013.2-2015 (originally 52-502)	A
ASN (Autonomous System Number)	A unique globally available number used to identify an autonomous system that enables it to exchange exterior routing information with other neighboring autonomous systems. Ref: www.iana.org	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ASRR (Average Sector Radius Range)	The average distance from a point (e.g., cell tower) that scribes an arc depicting a sector under average operating conditions.	
Associated Location	A location (civic, geodetic, or polygon) within the designated PSAP jurisdiction that may be used in wireless call scenarios to route the call toward the designated PSAP. Ref: NENA-STA-006 NENA Standard for NG9-1-1 GIS Data Model ATIS Standard for Implementation of 3GPP Common IMS Emergency Procedures for IMS Origination and ESInet/Legacy Selective Router Termination ATIS-0700015	A
ATIS (Alliance for Telecommunications Industry Solutions)	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. www.atis.org	
Authorized Observer	A Working Group role available to Committee Co-Chairs, DSC Advisors, NENA Staff and Executive Board members who may participate in WGs, but do not have voting rights.	
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.	
AVL (Automatic Vehicle Location)	A means for determining the geographic location of a vehicle and transmitting this information.	C

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
B2BUA (Back to Back User Agent)	A SIP element that relays signaling mechanisms while performing some alteration or modification of the messages that would otherwise not be permitted by a proxy server. A logical entity that receives a request and processes it as a user agent server (UAS). In order to determine how the request should be answered, it acts as a user agent client (UAC) and generates requests. Unlike a proxy server it maintains dialog state and must participate in all requests sent on the dialogs it established.	
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.	
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 TDD/TTY devices. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	
BCF (Border Control Function)	Provides a secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall, admission control, and may include anchoring of session and media as well as other security mechanisms to prevent deliberate or malicious attacks on PSAPs or other entities connected to the ESInet.	
BGP (Border Gateway Protocol)	A protocol designed to exchange routing and reachability information among autonomous systems.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
BISACS (Building Information Services and Control System)	A computer-based system that allows access to building information such as its structural layout and/or monitors a particular building or set of buildings for alerts. Ref: NENA-STA-010, Detailed Functional and Interface Standards for the NENA i3 Solution	
ANSI BSR (Board of Standards Review)	The American National Standards Institute Board of Standards Review is responsible for the approval and withdrawal of American National Standards. Ref: https://www.ansi.org/about_ansi/structure_management/committees/bsr/bsr	
Business Day	A 24-hour period of time beginning at midnight that is established by the Database 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.	
Certificate Authority	A trusted entity that issues digital certificates. The Certificate Authority conducts a vetting process to ensure that the holder of the digital certificate is who they claim to be. Digital certificates are an essential part of secure communication and play an important part in the Public Key Infrastructure (PKI).	
Communications Assistant	General term for person who voices text and types speech (IP Relay or TRS) or who interprets ASL conversation between callers (VRS). "Communications Assistant" supersedes the term "TDD operator".	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CAD (Computer Aided Dispatch)	A computer-based system, which aids PSAP Telecommunicators by automating selected dispatching and record keeping activities.	
CALEA (Commission on Accreditation for Law Enforcement Agencies)	Created in 1979 as a credentialing authority through the joint efforts of law enforcement's major executive associations: • International Association of Chiefs of Police (IACP); • National Organization of Black Law Enforcement Executives (NOBLE); • National Sheriffs' Association (NSA); and the • Police Executive Research Forum (PERF). The purpose of CALEA's Accreditation Programs is to improve the delivery of public safety services, primarily by: maintaining a body of standards, developed by public safety practitioners, covering a wide range of up-to-date public safety initiatives; establishing and administering an accreditation process; and recognizing professional excellence. http://www.calea.org/	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Call	A generic term referring to any request for public safety assistance, regardless of the media used to make that request. This term may appear in conjunction with specific media, such as "voice Call", "video Call", "text Call", or "data-only Call" when the specific media is of importance. The term "non-interactive Call" refers to an emergency Call that is initiated automatically, carries data, does not establish a two-way interactive media session, and typically does not involve a human at the "initiating" end. Ref: NENA-STA-019, NG9-1-1 Call Processing Metrics Standard	
Call Back	The capability to re-contact the calling party.	
Call Diversion	See Diverted Call	
Call Handling	A Functional Element concerned with the details of the management of calls. It handles all communication from the caller. It includes the interfaces, devices and applications utilized by the Agents to handle the call.	
Call Identifier	A globally unique identifier assigned by the first element in the first ESInet which handles a call.	
Call Progress Signals	Audible cues to advise 9-1-1 callers of the status of their call. (e.g. Busy Tone, Reorder Tone)	
Call Queuing	The method of selection of which calls get passed to the outgoing trunk group when there are more call originations than terminating members on the outgoing trunk.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Call Relay	Forwarding of pertinent information by a Telecommunicator to the appropriate response agency (Not to be confused with Telephone Relay Service).	C
Call Routing	The function of delivering the 9-1-1 call to the appropriate PSAP.	C
Call Server	Used in the Interim VoIP Architecture For Enhanced 9-1-1 Services standard 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	See Telecommunicator.	
Call Taker Position	See Answering Position.	
Call Taker Supervisor	An agent of a PSAP who supervises Call Takers.	
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.	
Call-Info Header	A SIP header which contains a URI referring to some kind of data relevant to a call, and a "purpose" parameter describing what the URI refers to. Used to carry URIs to such entities as Additional Data for the Call and Caller, and call/Incident Tracking Identifiers.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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. Also known as: Caller Hold	
CAMA (Centralized Automated Message Accounting)	A type of in-band analog transmission protocol that transmits telephone number via multi-frequency encoding. Originally designed for billing purposes.	
CAMA-Like trunks	Router to PSAP trunk typically using Enhanced MF Signaling.	
CAP (Common Alerting Protocol)	A general format for exchanging emergency alerts, primarily designed as an interoperability standard for use among warning systems and other emergency information systems. Ref: OASIS Common Alerting Protocol Version 1.2 Detailed Functional and Interface Standards for the NENA i3 Solution	
CAP MESSAGE	A notification using the Common Alerting Protocol. CAP is used within the ESInet to send alerts from automated systems to PSAPs, and is also used to communicate data between agencies without a call.	
Carrier	In the context of 9-1-1 database vernacular: a business entity that provides a function to a customer base, typically for a fee. Examples of carriers and associated services are; a Local Exchange Carrier providing PSTN service, a VoIP Service Provider providing VoIP service, an Internet Service Provider providing email service.	
Carrier Frequency	The frequency of the unmodulated IRIG B or E signal.	
CART (Child Abduction Response Team)	A formalized multi-agency child abduction team that will respond to abducted, missing and endangered child cases in a timely and efficient manner.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CAS (Call Associated Signaling)	A method for delivery of wireless 9-1-1 calls that 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). Also known as: CallPath Associated Signaling	
CAS (Channel Associated Signaling)	An option for the signaling channel (time slot 16) of an E1 interface; ITU G.704. Used on digital interfaces for signaling.	
Case Number	Tracking number used to reference recorded incidents and events. Related nomenclature: Call Number, Report Number, Incident number, Report number.	
Catenary	The wiring system suspended above the tracks on electrified railroads used to power electric trains. Note: These wires are extremely dangerous; they carry very high voltage power. Any wire found to be dangling or down on a railroad location should be considered live unless confirmed otherwise by a railroad official.	
Catenary Pole	Poles used to support and suspend catenary wires.	
Catypes	A component of a civic address in a PIDF-LO such as a Street Name or House Number, which has a code used to identify what kind of component.	
CBN (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.	
CBR (Constant Bit Rate)	A service class, where the bit rate is fixed, i.e., the traffic is not burst. Examples are voice and uncompressed video.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CCS7 (Common Channel Signaling 7)	See SS7 Also known as: SS7 (Signaling System 7)	
CDMA (Code Division Multiple Access)	A digital radio interface utilized by some North American wireless carriers.	
CdPN (Called Party Number)	A parameter within SS7 and MF signaling to designate the destination number.	
CDR (Call Detail Record)	A record stored in a database recording the details of a received or transmitted call (from NENA-STA-010). The data information sent to the ALI computer by a remote identifying device (PBX, Call Position Identifier, …)	
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.	
Centrex	A business telephone service offered by some Local Exchange Carriers that provides PBX type features over access lines.	
Centroid	A point within and at the center of the physical extent of a real-world object, as represented in a GIS.	
CERT (Community Emergency Response Team)	A FEMA-sponsored training program to enable local volunteers to assist first responders in disaster response. https://www.fema.gov/community-emergency-response-teams	
CERT (Computer Emergency Readiness Team)	Information technology (IT) security organization. The purpose of CERT is to respond to computer security incidents, report on vulnerabilities and promote effective IT security practices throughout the country. https://www.us-cert.gov/	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CGL (Calling Geodetic Location)	An ISUP parameter that indicates the X/Y coordinates of the calling party.	
CHGN (Charge Number)	A parameter within SS7 and MF signaling to designate the telephone number that would be billed for the call (billing is not applicable to 9-1-1 calls).	
cid (Content Identifier [Content-ID])	An identifier used to refer to a Multipurpose Internet Mail Extensions (MIME) block. Ref: Detailed Functional and Interface Standards for the NENA i3 Solution	
CID 2 Company Identifier 2)	See Data Provider Company ID	
CID1 (Company Identifier 1)	See Access Infrastructure Provider Company ID	
CIDB (Call Information Database)	**Obsolete**, see Additional Data Repository	
CIF (Critical Issues Forum)	Periodic events presented as a public service, focusing on emerging and significant topics in emergency communications. CIFs typically provide one to three day workshops featuring industry experts.	
Circuit Route	The physical path between two terminal locations.	
Circuit-Switched Networks	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.	
CISC (Canadian radio-television and telecommunications commission Interconnection Steering Committee)	The Steering Committee for the Canadian Radio-Television and Telecommunications Commission (CRTC).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
CJIS (Criminal Justice Information System)	Serves as the focal point and central repository for criminal justice information services in the FBI. Programs initially consolidated under the CJIS Division included the National Crime Information Center (NCIC), Uniform Crime Reporting (UCR), and Fingerprint Identification. In addition, responsibility for several ongoing technological initiatives was transferred to the CJIS Division, including the Integrated Automated Fingerprint Identification System (IAFIS), NCIC 2000, and the National Incident-Based Reporting System (NIBRS). https://www.fbi.gov/about-us/cjis	
CLDXF (Civic Location Data Exchange Format)	A United States emergency services profile of PIDF-LO that defines a set of standard data elements that describe detailed street address information. See Section 6 below, NENA Civic Location Data Elements table. Ref: NENA-STA-004.1-2014, NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard	
CLEC (Competitive Local Exchange Carrier)	See Local Exchange Carrier (LEC)	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CLID (Calling Line Identification)	Signaling parameter that identifies the telephone number of the party placing a call.	
Client ID	An identifier for an instance of a Location Object (Geo Location, Civic Location or both) that is stored in a LIS.	
CLLI (Common Language Location Identifier)	An identifier used in the North American telecommunications industry to specify the location of equipment. For example, an 8 to 11 character code assigned to a central office to designate the physical location.	
CMRS (Commercial Mobile Radio Service)	A US FCC designation for any carrier or licensee whose wireless network is connected to the public switched telephone network.	
CMTS (Cable Modem Termination System)	The node used to control cable modems in a cable network system.	
CO (Central Office)	The Local Exchange Carrier facility where access lines are connected to switching equipment for connection to the Public Switched Telephone Network.	
CO Transfer (Central Office Transfer)	A service provided by the Central Office that allows an established call to be transferred to another location.	
Code Point	A code for a requested QoS action used in the Diffserv QoS mechanism on an IP network. The code point is sent in the TOS field of an IP packet.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CODEC (Coder/DECoder or Compression/DECompression)	In communications engineering: integrated circuits, or chips that perform data conversion. In this context, the term is an acronym for "**co**der/**dec**oder." 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. The term *codec* is also an acronym that stands for "**co**mpression/**dec**ompression." 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 *decompression* algorithm, which "undoes" the compression, would have to be used.	
COLT (Cell on Light Truck)	Area mobile cell site on smaller box trucks and limited with respect to the cell phone network, as opposed to the fully functional COW (cell on wheels).	
Commercial Call Center	A privately operated call center, which answers emergency and/or non-emergency calls.	
Common Trunk Group	A trunk group that carries calls that originates from more than one service type or more than one carrier. Also Known as: Shared Trunk Group	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Competitive Database Provider	A company that offers telephone subscriber database services in competition to an Incumbent Local Exchange Carrier (ILEC). This company is usually an unregulated entity.	
Conference Transfer	The capability to bridge a third party onto an existing call. Also known as: three-way calling	
Confidence/Uncertainty	Confidence: 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. Uncertainty: 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. NOTE: 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	
Congestion Control	A method of controlling traffic when there are insufficient resources to meet demand, for example more requests for calls than there are trunks. It may be achieved by rejecting requests, and/or diverting calls.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Consensus Body	The group that reviews the process used during the development of NENA documents, certifies that these processes have been followed, and whose vote demonstrates evidence of consensus. This group is the NENA Process Review (PRC) Committee.	
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.	
COOP (Continuity of Operations Plan)	A plan to implement Continuity of Operations to ensure that Primary Mission Essential Functions continue to be performed during a wide range of emergencies, including localized acts of nature, accidents and technological or attack-related emergencies. Ref: https://www.fema.gov/policy-plans-evaluations National Security Presidential Directive-51/Homeland Security Presidential Directive-20 (NSPD-51/HSPD-20) and the National Continuity Policy Implementation Plan. NENA-INF-010, NENA Succession Planning Information Document	C
Coordinate Based Routing	The process of using a Coordinate Routing Database (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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CoS (Class of Service)	A designation in E9-1-1 that defines the service category of the telephony service. A few examples are residential, business, Centrex, coin, PBX, VoIP and wireless Phase II (WPH2).	
COW (Cell on Wheels)	A mobile cell site that consists of a cellular antenna tower and electronic radio transceiver equipment on a truck or trailer, designed to be part of a cellular network typically on a temporary or short-term basis.	
CP/CPS (Certificate Policy/Certification Practice Statement)	Practice and Policy over the PKI. A public key infrastructure (PKI) supports the distribution and identification of public encryption keys, enabling users and computers to both securely exchange data over networks such as the Internet and verify the identity of the other party.	
CPAS (Cellular Priority Access Service)	A uniform nationwide method of providing priority access to authorized wireless subscribers in the event of an emergency.	
CpCAT (Calling Party CATegory)	A parameter within SS7 signaling to designate the category of the originating telephone number. For example, the category could differentiate between wireline and wireless calls.	
CPE (Customer Premises Equipment)	Communications or terminal equipment located in the customer's facilities – Terminal equipment at a PSAP.	
CPN (Calling Party Number)	A parameter within SS7 & MF signaling to designate the originating telephone number. CgPN is the ISUP parameter.	
CPN (Calling Party's Number)	The 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. See Related Term: ***CBN (Call Back Number)***	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CRDB (Coordinate Routing Database)	A database where cell site addresses are provisioned. 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.	
CRL (Certificate Revocation List)	One of two common methods when using a public key infrastructure for maintaining access to servers in a network. CRL stands for Certificate Revocation List. It is a list of certificates (or more specifically, a list of serial numbers for certificates) that have been revoked, and therefore entities presenting those certificates should no longer be trusted. The other method, which has superseded CRL in some cases, is Online Certificate Status Protocol (OCSP).	
CRM (Committee Resource Manager)	A NENA staff or contractor position who provides administrative support to the DSC volunteer leadership and to the Process Review Committee (PRC).	
CRN (Contingency Routing Number)	A 24x7 PSAP emergency number, or a routing number associated with a national or default call center.	
CRTC (Canadian Radio-television and Telecommunications Commission)	Supervises and regulates broadcasting and telecommunications systems in Canada.	
CSCF (Call Session Control Function)	General term for a functional entity within an IMS core network that can act as Proxy CSCF (P-CSCF), Serving CSCF (S-CSCF), Emergency CSCF (E-CSCF), or Interrogating CSCF (I-CSCF).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
CSP (Communications Service Provider)	This term is used generically to refer to any and all providers of telecommunications services that may be used to generate a 9-1-1 call, and who would interconnect in any fashion to the 9-1-1 network. CSPs include wireline ILECs and CLECs, Wireless Service Providers, VoIP Service Providers, operators of large PBXs and any other entity providing telecommunications services.	
CSP (Cryptographic Service Provider)	A library that provides cryptographic functions.	
CSRIC (Communications Security, Reliability and Interoperability Council)	An advisory body of the FCC, formerly known as NRIC (Network Reliability and Interoperability Council), which provides recommendations to the FCC to ensure, among other things, optimal security and reliability of communications systems, including telecommunications, media, and public safety. https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-1	
CTI (Computer Telephone Integration)	Integrating telephone function into a computing device.	
CTIA (Cellular Telephone Industry Association)	An association for the wireless industry. http://www.ctia.org	
CTX-IP (Centrex-based Internet Protocol)	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.	
Customer Name Field	The portion of traditional Automatic Location Identification format where the Customer Name or other pre-populated identifying information is displayed to the 9-1-1 Telecommunicator.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
DAS (Distributed Antenna System)	A network used to distribute RF signals from a central hub to a specific area with poor coverage or inadequate capacity. A DAS network consists of (i) a number of remote communications nodes deployed throughout the desired coverage area, each including at least one antenna for the transmission and reception of a wireless service provider's RF signals, (ii) a high capacity signal transport medium (typically fiber optic cable) connecting each node to a central communications hub site, and (iii) radio transceivers located at the hub site (rather than at each individual node as is the case for small cells) to process or control the communications signals transmitted and received through the antennas. DAS deployments may cover entire neighborhoods and involve hundreds of nodes connected to a single hub. Further, whereas small cells are usually operator-managed and support use by a single wireless service provider, DAS networks can often accommodate multiple wireless providers using different frequencies and/or wireless air interfaces. Economics as well as coverage and capacity needs may dictate different solutions in different scenarios, so use of DAS continues to evolve. In addition, other wireless technologies are also being developed and deployed that are similarly capable of being placed indoors or on top of short structures like utility poles.	
Data Provider Company ID	A 3-5 character identifier that distinguishes the source of the ALI record information (e.g., service provider/reseller/private switch owner). Also known as: Company Identifier (ID) 2	
Data Synchronization	Keeping multiple datasets in coherence with one another to maintain data integrity.	
Database Administrator	An agent of a 9-1-1 Authority who maintains address databases on behalf of a set of PSAPs.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Database Administrator Supervisor	An agent of a 9-1-1 Authority who supervises Database Administrators.	
Database Coordinator or MSAG Coordinator	The individual with the 9-1-1 Governing Authority or 9-1-1 Authority who has responsibility for all daily maintenance of the 9-1-1 database, to include, but not limited to MSAG maintenance, 9-1-1 Inquiry resolution, notifying SPs of address changes or corrections for a resident. This could be a county/parish or city government, a special 9-1-1 or Emergency Communications District, a Council of Governments or other similar body.	
Datagram	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.	
DBMS (Data Base Management System)	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. Also known as: DMS Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	
DBMSP (Data Base Management System Provider)	Entity providing Selective Routing (SR) and/or Automatic Location Identification (ALI) data services.	
DCE (Data Communications Equipment)	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).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
DeafBlind	A term used to describe a person in whom hearing and vision loss 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.	
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 Route	The routing condition that occurs when a 9-1-1 call arrives at a switching or routing point with insufficient data to allow normal routing to the correct PSAP.	
Default Routing	The capability to route a 9-1-1 call to a designated (default) PSAP when the incoming 9-1-1 call cannot be selectively routed due to an ANI failure or other cause.	
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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Delegate Credential Authorities	An entity responsible for issuing certificates, which are derived from Valid Emergency Services Authority (VESA) certification, 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.	
Demarcation Point	A mutually-defined boundary dividing one area of responsibility from another.	
Denial of Service Attack	A type of cyber-attack intended to overwhelm the resources of the target and deny the ability of legitimate users of the target the normal service the target provides.	
Dereference	The act of exchanging a reference to an item by its value. For example, the dereference operation for location uses a protocol such as SIP or HELD to obtain a location value (PIDF-LO).	
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.	
Development Committee	Committees established to address the complex operations and technology issues related to the provision and management of emergency communications services in specific topical areas.	
DHCP (Dynamic Host Configuration Protocol)	A widely used configuration protocol that allows a host to acquire configuration information from a visited network and, in particular, an IP address.	
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	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
DID (Direct Inward Dialing)	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.	
Diffserv	A quality of service mechanism for IP networks characterized by a code in a field of a Packet called a "Code Point" and a "Per hop Behavior."	
Direct [and equal] Access	The ability to TTY calls without relying on an outside relay service or third-party services to communicate with individuals with hearing and speech disabilities regardless of how the communication originated.	
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.	
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.	
Dispatch System	A Functional Element used to assign appropriate resources (emergency responders) to an incident, monitor the response and relay relevant information. Tracks and logs all transactions associated with the emergency response.	A
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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Diverted Call	A Call that was rerouted due to the nominal destination's unavailability or inability to accept. Calls may be diverted for conditions that are scheduled (e.g., maintenance, hours the PSAP is not staffed, etc.), or for events that cannot be scheduled (e.g., equipment or network failure, disasters, etc.) "Call Diversion" is the process that results in a diverted call. Ref: NENA-STA-019, NG9-1-1 Call Processing Metrics Standard	A
DMS (Data Management System)	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. Also called DBMS (Data Base Management System)	
DMT (Discrete Multi-Tone)	The transmission medium for ADSL.	
DMZ (Demilitarized Zone)	In computer networks, a physical or logical sub-network that separates an internal local area network (LAN) from other untrusted networks, usually the Internet.	
DN (Directory Number)	A dialable 10-digit telephone number associated with a telephone subscriber or call destination.	
DNS (Domain Name System)	A globally distributed database for the resolution of host names to numeric IP addresses.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
DNS Domain Name Server)	Used in the Internet today to resolve domain names. The input to a DNS is a domain name (e.g., nena.org); the response is the IP address of the domain. The DNS allows people to use easy to remember text-based addresses and the DNS translates those names into routable IP addresses.	
DNSSEC (Domain Name System Security Extensions)	A set of Internet Engineering Task Force (IETF) standards created to address vulnerabilities in the Domain Name System (DNS) and protect it from online threats.	
DOCSIS (Data Over Cable Service Interface Specifications)	The name given to the specifications for residential cable Internet Access.	
DOJ (Department of Justice)	A branch of the United States Federal Government legislated to oversee compliance of Title II of the ADA.	
Domain	The domain name (hostname) of an agency or element in an ESInet. See Domain Name System (DNS). Also known as: Domain Name	
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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
DoS (Denial of Service)	A type of cyber-attack intended to overwhelm the resources of the target and deny the ability of legitimate users of the target the normal service the target provides. ***DDoS (Distributed Denial of Service Attack)*** A cyber-attack where the attack source is more than one, often thousands of, unique IP addresses. A DDoS attack occurs when multiple systems flood the bandwidth or resources of a targeted system, usually one or more web servers. Such an attack is often the result of multiple compromised systems (for example a botnet) flooding the targeted system with traffic. ***TDoS (Telephone Denial of Service)*** Illegal attacks targeting the telephone network by generating numerous 9-1-1 phone calls, tying up the network and preventing an agency from receiving legitimate calls. Ref: NENA-INF-015 NG9-1-1 Security Information	
DRM (Data Rights Management)	Wherever data that might be considered sensitive, which in 9-1-1 is nearly all data, should be subject to data rights management. This involves careful consideration of agent roles, and construction of the DRM rule sets, secure credential handling and appropriate handling of errors and alarms.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
DS3 (Digital Signal 3)	A service consisting of a high capacity channel provisioned for transmission speeds of 44.736 Megabits per second (Mbps) isochronous serial data. Digital Signal Level 3 (DS3) facility can be channelized to provide 28 DS1 circuits with the multiplexing ability to enable a platform for voice, video, or data services.	
DSC (Development Steering Council)	A steering and alignment body for the Development Committees. It is led by two Co-Chairs, one appointed from the "Private Sector" membership classification and one from the "Public Sector" membership classification. In addition to the Co-Chairs, the DSC consists of two Co-Chairs from each Development Committee, NENA Staff, and an Executive Board Liaison.	
DSL (Digital Subscriber Line)	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/	
DSLAM (Digital Subscriber Line Access Multiplexer)	A network device that delivers exceptionally high-speed data transmission over existing copper telephone lines. A DSLAM separates the voice-frequency signals from the high-speed data traffic and controls and routes digital subscriber line (xDSL) traffic between the subscriber's end-user equipment (router, modem, or network interface card [NIC]) and the network service provider's network.	
DTE (Data Terminal Equipment)	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).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
DTMF (Dual Tone Multi-Frequency)	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. The tones are audible and transmitted within the voice band. Also known as: Touch-Tone ™	
E.164 number	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).	
E2, E2+ (E2 Interface)	An industry standard interface (defined in J-STD-036) used between a Mobile Positioning Center (MPC/GMLC) and an ALI database server.	
E9-1-1 (Enhanced 9-1-1)	A telephone system which includes network switching, database and Public Safety Answering Point premise elements capable of providing automatic location identification data, selective routing, selective transfer, fixed transfer, and a call back number. The term also includes any enhanced 9-1-1 service so designated by the Federal Communications Commission in its Report and Order in WC Docket Nos. 04-36 and 05-196, or any successor proceeding.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
9-1-1 SSP (9-1-1 System Service Provider)	An entity that 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. A 9-1-1 SSP may provide the systems and support for either E9-1-1 or NG9-1-1. In the context of E9-1-1, it is typically, but not always, an Incumbent Local Exchange Carrier (ILEC). This includes: • 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 Ref: NENA-STA-015.10-2018 NENA Standard Data Formats for E9-1-1 Data Exchange & GIS Mapping	C

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
EAB (Education Advisory Board)	Appointed by the NENA President, members of the EAB provide the NENA Executive Board with committee support in defining and developing NENA's educational mission.	
EAS (Emergency Alert Systems)	Radio or television-based broadcast of emergency event information.	
ECC (Emergency Communications Center)	A facility that is designated to receive requests for emergency assistance, including but not limited to 9-1-1 calls, and staffed to perform one or more of the following functions: • Determine the location where an emergency response is being requested. • Interrogate callers to identify, assess, prioritize, and classify requests for emergency assistance and other gathered information. • Determine the appropriate emergency response required. • Assess the available emergency response resources that are, or will be, available in the time required. • Dispatch appropriate emergency response providers. • Transfer or exchange requests for emergency assistance and other gathered information with other emergency communications centers and emergency response providers. • Analyze and respond to communications received from emergency response providers and coordinate appropriate actions. • Support incident command functions.	C
Echo	Return of transmitted data.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ECRF (Emergency Call Routing Function)	A functional element in an **NGCS (Next Generation 9-1-1 Core Services)** which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller's location or towards a responder agency. • External ECRF: An ECRF instance that resides outside of an NGCS instance. • Internal ECRF: An ECRF instance that resides within and is only accessible from an NGCS instance. Ref: NENA-STA-019, NG9-1-1 Call Processing Metrics	C
ecrit (Emergency Context Resolution In the Internet)	An Internet Engineering Task Force (IETF) Working Group.	
E-CSCF (Emergency Call Session Control Function)	The entity in the IMS core network that handles certain aspects of emergency sessions, e.g. routing of emergency requests to the correct emergency center or PSAP.	
EDGE (Enhanced Data rates for GSM Evolution)	A digital mobile phone technology which acts as a bolt-on enhancement to 2G and 2.5G General Packet Radio Service (GPRS) networks.	
EDXL (Emergency Data eXchange Language)	A broad initiative to create an integrated framework for a wide range of emergency data exchange standards to support operations, logistics, planning and finance.	
EENA (European Emergency Number Association)	A Brussels-based non-governmental organization set up in 1999 dedicated to promoting high-quality emergency services reached by the number 112 throughout the European Union. www.eena.org	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
EIA (Electronic Industry Association)	U.S. trade organization that issued its own standards and contributed to the American National Standards Institute. It also acted as a trade organization of manufacturers that set standards for use of its member companies, conducted education programs, and lobbied in Washington for its members' collective prosperity. It was associated with the Telecommunications Industry Association (TIA). It ceased operations in February 2011.	
EIA RS-232 (Electronic Industry Alliance Recommended Standard 232 (serial interface)	In telecommunications, a standard for serial communication transmission of data. It formally defines the signals connecting between a DTE (data terminal equipment) such as a computer terminal, and a DCE (data circuit-terminating equipment or data communication equipment), such as a modem.	
EIDO (Emergency Incident Data Object)	A JSON-based (JavaScript Object Notation) object that is used to share emergency incident information between and among authorized entities and systems.	C
EIGRP (Enhanced Interior Gateway Routing Protocol)	A routing protocol that supports Ipv6 and may be used within regional ESInets.	
E-Key (Electronic Key Telephone System)	A multi-line telephone system which utilizes stored program control technology instead of KSU's and KTU's.	
Electrical Sub Station	A power station found along the track area of electrified railroads used to aid in the power requirements and distribution of the rail system. Substations are normally fenced off for safety however access can be gained. All equipment in the substation is electrified with high voltage.	
Element Identifier	A logical name used to represent physical implementation of a functional element or set of functional elements as a single addressable unit. The form of an element identifier is a hostname.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ELIN (Emergency Location Identification Number)	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.	
ELT (English Language Translation)	An alphanumeric description of the primary Law Enforcement, Fire and Emergency Medical Service agencies associated with a given Emergency Services Zone/Number. The ELT includes the name of the first-responder agency, and may include their station number (for dispatch purposes) and telephone number. Examples: • 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.) 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. Also known as: • agency file • tell tale	
EM (Emergency Message) Circuits	The special service circuits used to carry 9-1-1 calls to the PSAP.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Emergency Ring Back	The capability of a PSAP attendant to ring the telephone on a held circuit. Requires Calling Party Hold. (A Basic 9-1-1 feature.) Also known as: re-ring	
Emerging Technologies	New technologies and network to deliver communications.	
EMI (Electromagnetic Interference)	Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics and electrical equipment. It can be induced intentionally, as in some forms of electronic warfare, or unintentionally, as a result of spurious emissions and responses, intermodulation products, and the like.	
EMS (Emergency Medical Service)	A service providing out-of-hospital acute care and transport to definitive care, to patients with illnesses and injuries which the patient believes constitute a medical emergency.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
EMTEL (Emergency Telecommunications)	The concept 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, firefighting 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. 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).	
Enhanced MF (Enhanced Multi-Frequency)	A signaling protocol, used on the E9-1-1 tandem-to-PSAP interface, that is based on the Feature Group D (FG-D) protocol and supports the delivery of up to two 10-digit numbers, the first of which is preceded by two ANI information digits (i.e., ANI "II" digits). Telcordia GR-2953-CORE Also known as: E-MF	

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ENS (Emergency Notification Systems)	General category for any systems used to notify persons or devices of an emergency. May include changeable message signs, sirens, telephone and other media. Other systems are: • ***LAENS (Large Area Emergency Notification System):*** A communications system used by a public safety agency to notify people in a large area about an emergency condition. • ***WAENS (Wide Area Emergency Notification System):*** A communications system designed to deliver information (action or knowledge related) regarding a public safety, public service or emergency management event. Message recipients may include first responder staff from multiple jurisdictions, residents living in a small segment of a neighborhood/community or an entire county, motorists traveling on freeways or major thoroughfares or, quite simply, almost anyone anywhere.	
Enterprise Network	A large network connecting major points in a company or other organizations not part of the public telecommunications infrastructure.	
Enumeration	A type of data element whose value is one of a specified set of labels or names. For example, one could have an enumeration whose possible values are selected from the set “Online”, “Offline” and “Maintenance”	
EO (End Office)	See Central Office (CO)	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
EOC (Emergency Operations Center)	A central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level during an emergency, and ensuring the continuity of operation of a company, political subdivision or other organization.	
E-OTD (Enhanced Observed Time Difference)	A standard for the location of mobile telephones. The location method works by multilateration. Conceptually, the handset makes an observation of the time difference of arrival of signals from two different base stations. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
EPSG (European Petroleum Survey Group)	A group formed in 1986 comprised of specialist surveyors, geodesists and cartographers from Oil Companies based in Europe and having international operations, which maintains and publishes a data set of parameters for coordinate reference system and coordinate transformation description. http://www.ihsenergy.com/	
ERDB (Emergency Routing Database)	A database containing 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.	
ES (Emergency Service) 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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ESA (Emergency Stand Alone)	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.	
ESCO (Emergency Service Central Office Number)	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.	
ESGW (Emergency Services Gateway)	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.	
ESGW (Emergency Services Gateway) Operator	Operates emergency service gateway(s).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ESIF (Emergency Services Interconnection Forum)	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." Refer to www.atis.org/esif	
ESInet (Emergency Services IP Network)	A managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core services can be deployed, including, but not restricted to, those necessary for providing NG9-1-1 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based inter-network (network of networks). The term ESInet designates the network, not the services that ride on the network. See NG9-1-1 Core Services.	
ESME (Emergency Services Message Entity)	Routes and processes the out-of-band messages related to emergency calls. This may be incorporated into selective routers (also known as Routing, Bridging and Transfer switches) and Automatic Location Identification (ALI) database engines.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ESMI (Emergency Services Messaging Interface)	The evolution of the Emergency Service Network that provides sophisticated and robust services to the PSAP and other authorized agencies. The Emergency Services Messaging Interface supports a future direction toward a next generation emergency services network.	
E-SMLC (Evolved Serving Mobile Location Center)	Manages the overall co-ordination and scheduling of resources required for the location of a UE that is attached to E-UTRAN. It also calculates the final location and velocity estimate and estimates the achieved accuracy. The E-SMLC interacts with the UE in order to exchange location information applicable to UE assisted and UE based position methods and interacts with the E-UTRAN in order to exchange location information applicable to network assisted and network-based position methods.	
ESN (Electronic Serial Number)	A unique code created to identify mobile devices. Ref: NENA-INF-004.1.2-2018 NENA Operational Impacts of Devices and Sensors Information Document	A
ESN (Emergency Service Number)	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.)	
ESNE (Emergency Services Network Entity/Element)	A network element of TIA/EIA/J-STD-036. The ESNE routes and processes the voice band portion of the emergency call. This is composed of selective routers (also known as Routing, Bridging and Transfer switches).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ESNI (Emergency Services Network Interfaces)	Defined by ATIS in ATIS-0500008, the Emergency Information Services Interface (EISI), Emergency Service Messaging Interface (ESMI) and ESNet to ESNet Interface (ENEN) comprises a suite of standards under the umbrella of Emergency Services Network Interfaces (ESNI) that enables an evolutionary migration from existing PSAP ALI services and interfaces to next generation services. Refer to ATIS-0500008, Emergency Services Network Interfaces (ESNI) Framework.	
ESQK (Emergency Services Query Key)	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 a non-dialable North American Numbering Plan (NANP) number in the format of NPA-NXX-XXXX. They are currently being allocated from NPA-211-XXXX and NPA-511-XXXX number sets.	
ESRD (Emergency Services Routing Digit)	A 10-digit North American Numbering Plan 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 by the PSAP to retrieve the associated ALI data.	
Esri	An international supplier of geographic information system software, web GIS and geodatabase management applications. www.esri.com	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ESRK (Emergency Services Routing Key)	A 10-digit North American Numbering Plan 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.	
ESRN (Emergency Services Routing Number)	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.	
ESRP (Emergency Service Routing Proxy)	An i3 functional element which is a SIP proxy server that selects the next hop routing within the ESInet based on location and policy. There is an ESRP on the edge of the ESInet. There is usually an ESRP at the entrance to an NG9-1-1 PSAP. There may be one or more intermediate ESRPs between them. • Originating ESRP: The first routing element within the Next Generation Core Services (NGCS). It receives calls from the BCF at the edge of the ESInet. • Terminating ESRP: The last ESRP for a call in NGCS.	
ESZ (Emergency Service Zone)	A geographical area that represents a unique combination of emergency service agencies (e.g., Law Enforcement, Fire and Emergency Medical Service) that is 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)	
Ethernet	A popular local area data communication network, which accepts transmissions from computers and terminals.	
ETNS (Emergency Telephone Notification Systems)	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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ETSI (European Telecommunications Standards Institute)	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.	
EU (End User)	The 9-1-1 caller.	
EUMI (End User Move Indicator)	A field in the Local Service Request (LSR) form that indicates the end user (subscriber) is changing Service Address during the porting process.	
EVRC (Enhanced Variable Rate Codec) Narrowband	A speech codec developed to offer mobile carriers more network capacity while not increasing bandwidth requirements. Ref: Detailed Functional and Interface Standards for the NENA i3 Solution	
EVRC-WB (Enhanced Variable Rate Codec-Wideband)	A speech codec providing enhanced (wideband) voice quality. Ref: Detailed Functional and Interface Standards for the NENA i3 Solution	
Exchange	A defined area, served by one or more telephone central offices, within which a Local Exchange Carrier furnishes service.	
Exempt Lines	Access lines not subject to 9-1-1 charges.	
FAC (Facility (SS7 message))	A message sent in either direction at any phase of the call to request an action at another exchange.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
Fast Busy	This term indicated the tones a caller would hear if the call could not be completed because of the lack of network resources. In NG9-1-1 the functional equivalent is "600 Busy Everywhere"	
Fast Busy 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. Also known as: Reorder Tone	
FCC (Federal Communications Commission)	An independent U.S. government agency overseen by Congress, the Federal Communications Commission regulates interstate and international communications by radio, television, wire, satellite and cable in all 50 states, the District of Columbia and U.S. territories.	
FCC PSAP registry (Federal Communications Commission Public Safety Answering Point) registry	A listing of PSAPs with an FCC-assigned identification number, PSAP Name, State, County, City, and provides information on any type of record change and the reason for updating the record. The Commission updates the Registry periodically as it receives additional information. Available at http://www.fcc.gov/pshs/services/911-services/enhanced911/psapregistry.html Also known as: Master PSAP Registry Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
FCI (Feature Code Indicator)	Information sent in either direction to invoke a specific feature operation at the terminating or originating switch.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
FDD (Frequency division duplex)	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. 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)	
FE (Functional Element)	A set of software features that may be combined with hardware interfaces and operations on those interfaces to accomplish a defined task. Also known as: Functional Entity	
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.	

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Femtocell	A residential or business customer small cell that generally has a radius range of approximately 10 meters (or approximately 33 feet), that generally requires the customer to have a wired broadband connection in order for the wireless carrier to activate and register the small cell for use and connect the call to the mobile switching center, and that enables the customer to move the small cell and re-register the small cell.	
FG (Forest Guide)	A special instance of a LoST server. It is part of the Location to Service Translation (LoST) protocol query process and allows client functional elements to discover call routing information outside of its domain (typically their ESInet or state level ECRF/LVF). ***FG (Forest Guide) Operator*** The organization selected by the FG Sponsoring Entity to deploy and operate a national Forest Guide. ***FG (Forest Guide) Sponsoring Entity*** The organization(s) that provides oversight and financing for a national Forest Guide. ***Private Forest Guide (FG) Replica*** An instance of the FG that is generally limited in access to entities that contribute coverage areas. ***Public Forest Guide (FG) Replica*** An instance of a FG that is accessible to any authorized entity. Refer to RFC 5222, LoST: A Location-to-Service Translation Protocol	
FGDC (Federal Geographic Data Committee)	An interagency committee that promotes the coordinated development, use, sharing, and dissemination of geospatial data on a national basis. https://www.fgdc.gov/	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
FGDC-ASWG (Federal Geographic Data Committee-Address Standard Working Group)	This multi-organization group worked under the authority of the U.S. Census Bureau to develop United States Thoroughfare, Landmark and Postal Address Data Standard. The U.S. Census Bureau is the maintenance authority for the standard. https://www.fgdc.gov/standards/projects/FGDC-standards-projects/street-address/index_html	
Final Deliverable	A Deliverable that has been approved by the NENA Executive Board or, for documents that are not subject to Board approval that has been approved by the last body required by the applicable procedure under which the document was developed.	

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FIPS (Federal Information Processing Standards)	Publicly announced standards developed by the United States federal government for use in computer systems by non-military government agencies and government contractors. Refer to FIPS in Wikipedia for overall information **County & County Equivalent Codes:** https://www.census.gov/geo/reference/codes/cou.html describes the names and codes that represent the counties and equivalent legal and/or statistical subdivisions (i.e., counties) of the 50 states, the District of Columbia, and the possessions. **Security Requirements for Cryptographic Modules** http://nvlpubs.nist.gov/nistpubs/FIPS/NIST.FIPS.140-2.pdf describes document processing, encryption algorithms and other information technology standards for use within non-military government agencies and by government contractors and vendors who work with the agencies. The standards cover a specific topic in information technology (IT) and strive to achieve a common level of quality or interoperability.	
FirstNet (First Responder Network) Authority)	Signed into law on February 22, 2012, the Middle Class Tax Relief and Job Creation Act created the First Responder Network Authority (FirstNet). The law gives FirstNet the mission to build, operate and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety. FirstNet will provide a single interoperable platform for emergency and daily public safety communications. Ref: http://www.firstnet.gov/	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
FOC (Function of Change)	An identifier to indicate the type of activity and/or type of processing that the data record is being submitted for. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
Footprint	The geographic area covered by a particular wireless cell or cell sector.	
Force	Threats of serious harm to, or physical restraint against, that person or another person; and/or by means of any scheme, plan, or pattern intended to cause the person to believe that, if the person did not perform such labor or services, that person or another person would suffer serious harm or physical restraint; or by means of the abuse or threatened abuse of law or the legal process.	
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.	
FQDN (Fully Qualified Domain Name)	The complete domain name for a specific computer, or host, on the Internet.	

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FRA (Federal Railway Administration)	Created by the Department of Transportation Act of 1966, it is one of ten agencies within the U.S. Department of Transportation concerned with intermodal transportation. The Federal Railroad Administration's mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. (http://www.fra.dot.gov/)	
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.	
From Header	A SIP header that describes the caller's notion of its own identity (Address of Record). From is generally not treated as reliable unless it is protected by an Identity header.	
FTP (File Transfer Protocol)	A widely accepted, and readily available, means of communication, designed specifically to move data files between computer systems over an IP network.	
FTTP (Fiber to the Premise)	A description of a fiber optic connection between a location and the service provider.	
FX (Foreign Exchange Service)	A telephone line switched in an exchange or central office other than the exchange or central office area in which the telephone is located.	
g.711 a-law	An ITU-T Recommendation for an audio codec for telephony in non-North American regions.	
g.711 mu-law	An ITU-T Recommendation for an audio codec for telephony in the North American region.	
Gateway	Equipment that provides interconnection between two networks using different communications protocols.	
GCS (Geocode Service)	An NG9-1-1 service providing geocoding and reverse-geocoding.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
GDP (Generic Digits Parameter)	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.	
Geocoding	Interpolation-based computational techniques to derive estimates of geographic locations. NENA-STA-006, NENA Standard for NG9-1-1 GIS Data Model	C
geopriv (Geographic Location/Privacy)	The name of an IETF work group, now dormant that created location representation formats such as PIDF-LO and protocols for transporting them, such as HELD used in NG9-1-1. See https://datatracker.ietf.org/wg/geopriv/charter/	
GeoRSS (Geodetic Really Simple Syndication)	A simple mechanism used to encode GML in RSS feeds for use with the ATOM protocol.	
geoShape Element	One of a list of shapes defined originally by the IETF and standardized by the Open Geospatial Consortium that can be found in a PIDF-LO. Includes point, circle, ellipse, arc band, polygon, and 3D versions of same. Also known as: geodetic shape	
Geospatial Call Routing	The use of ECRF (Emergency Call Routing Function) and GIS (Graphical Information System) data to route an emergency call to the appropriate PSAP or emergency service provider based on the civic location or geographic coordinates provided with the call. NENA-STA-006, NENA Standard for NG9-1-1 GIS Data Model	A

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GETS (Government Emergency Telecommunications Service)	Provides NS/EP personnel priority access and prioritized processing in the local and long-distance segments of the landline networks, greatly increasing the probability of call completion. It is intended to be used in an emergency or crisis situation when the landline network is congested and the probability of completing a normal call is reduced. Refer to https://www.dhs.gov/government-emergency-telecommunications-service-gets.	
GIS (Geographic Information System)	A system for capturing, storing, displaying, analyzing and managing data and associated attributes which are spatially referenced. Representation of a real-world object in a GIS as a single geometric object is called a "GIS Feature". Tabular information about "features" contained in GIS data is commonly referred to as an "attribute". Ref: NENA-STA-006, NENA Standard for NG9-1-1 GIS Data Model	C
GML (Geography Markup Language)	An XML grammar for expressing geographical features standardized by the Open Geospatial Consortium OGC.	
GMLC/MLC (Gateway Mobile Location Center)	The point of interface between the GSM wireless network and the Emergency Services Network. The GMLC retrieves, forwards, stores and controls position data associated with wireless callers. This includes the processing of location requests and updates (rebids).	

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GNIS (Geographic Names Information System)	Developed by the U.S. Geological Survey in cooperation with the U.S. Board on Geographic Names, contains information about physical and cultural geographic features in the United States and associated areas, both current and historical (not including roads and highways). The database holds the Federally recognized name of each feature and defines the location of the feature by state, county, USGS topographic map, and geographic coordinates. http://nhd.usgs.gov/gnis.html	
GNP (Geographic Number Portability)	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.	
GoS (Grade of Service)	The probability of a call in a circuit group being blocked or delayed for more than a specified interval, expressed as a vulgar fraction or decimal fraction. This is always with reference to the busy hour when the traffic intensity is the greatest. https://en.wikipedia.org/wiki/Grade_of_service	
GPRS (General Packet Radio Service)	A packet oriented mobile data service on the 2G and 3G cellular communication system's global system for mobile communications (GSM). https://en.wikipedia.org/wiki/General_Packet_Radio_Service	
GPS (Global Positioning System)	A space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.https://en.wikipedia.org/wiki/Global_Positioning_System	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
GRUU (Globally Routable User agent URI)	A SIP URI which identifies a specific endpoint where a user is signed on that is routable on the Internet.	
GSM (Global Standard for Mobile Communications)	International standard digital radio interface utilized by some North American wireless carriers. https://en.wikipedia.org/wiki/GSM	
Guard Timer	An amount of time that the network specifies a trunk will be unavailable for seizure upon becoming idle.	
H.264/MPEG-4	An ITU-T Recommendation and Motion Picture Expert Group standard for a video codec.	
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.	
HCO (Hearing Carry Over)	A method which utilizes both voice and text communications on the same call, allowing a person who has a speech disability to listen to the other party's conversation and respond by typing via a TTY or other means of text communications.	
HDSL (High Bit Rate Digital Subscriber Line)	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.	
HELD (HTTP Enabled Location Delivery)	A protocol that can be used to acquire Location Information (LI) from a LIS within an access network as defined in IETF RFC 5985.	
Hz (Hertz)	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).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
HMI (Human Machine Interface)	The means through which a person interacts with an automated system/machine. A vehicle or an installation is sometimes referred to as the human-machine interface.	
Host Mobility	IP 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 one or more remote switch units (RSU) via a central "control" or "processor" resident within the host switch.	
Hosting	The provision of services to one or more remote sites. Rather than install complete systems in multiple sites, the control equipment may be located in a central site and shared across several remote sites.	
HSS (Home Subscriber Server)	A common functional entity to both the circuit switched and packet switched mobile domains in 3GPP/3GPP2. The HSS is the master database for a given user. It is the entity containing the subscription-related information to support the network entities actually handling calls/sessions.	

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HTRA (Human Trafficking Rescue Alliance)	A Texas alliance that is a collaboration of local, state and federal law enforcement agencies working together with area social service organizations. Since its inception, membership has grown, becoming recognized as a national model for its partnerships and effectiveness in identifying and assisting the victims of human trafficking and effectively identifying, apprehending and prosecuting those engaged in trafficking offenses. Ref: https://www.justice.gov/usao-sdtx/human-trafficking-rescue-alliance	
HTTP (Hypertext Transfer Protocol)	Typically used between a web client and a web server that transports HTML and/or XML.	
HTTPS (Hypertext Transfer Protocol Secure)	HTTP with secure transport (Transport Layer Security or its predecessor, Secure Sockets Layer)	
Human Trafficking	All acts involved in the transport, harboring, or sale of persons within national or across international borders through coercion, kidnapping, deception, or fraud for the purpose of placing persons in situations of forced labor or services such as domestic servitude, factor or agricultural work; or Sex trafficking in any commercial sex act induced by force, fraud, or coercion. It is always considered a severe form of trafficking if the person induced to perform the sexual act is under the age of majority, regardless of whether the elements of force, fraud or coercion are involved.	
i2	An architecture to connect emergency callers in the IP domain with Public Safety Answering Points (PSAPs) supported by the existing E9-1-1 network infrastructure. This interim step in the migration towards end-to-end IP networks is referred to as i2.	

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i3	NENA i3 introduces the concept of an Emergency Services IP network (ESInet), which is designed as an IP-based inter-network (network of networks) shared by all agencies which may be involved in any emergency.	
i3 PSAP (i3 Public Safety Answering Point)	A PSAP that is capable of receiving IP-based signaling for delivery of emergency calls and for originating calls and is conformant to NENA-STA-010 and other specifications for such PSAPs.	
IAB (Internet Architecture Board)	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). 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 Internet Architecture Board, under ISOC, in January, 1992, as part of the Internet's transition from a U.S.-government entity to an international, public entity.	
IAD (Integrated Access Device)	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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
IAED (International Academies of Emergency Dispatch)	A non-profit standard-setting organization, formerly known as NAED, promoting safe and effective emergency dispatch services world-wide. http://www.emergencydispatch.org/	
IAM (Initial Address Message)	The first message sent in a call set-up by a Switch or Exchange to other partner exchange. Refer to http://www.wapopia.com/techfaq/gsm-faq/what-is-initial-address-message-iam/	
IANA (Internet Assigned Numbers Authority)	The entity that oversees global IP address allocation; DNS root zone management, and other Internet protocol assignments. www.iana.org	
IANA Registry	A registry maintained by the Internet Assigned Number Authority, usually at the behest of the IETF. www.iana.org	
ICANN (Internet Corporation for Assigned Names and Numbers)	Authority for public domain addresses and URLs, including related policies and databases.	
ICE (Immigration Customs Enforcement)	A United States federal agency that enforces federal laws governing border control, customs, trade and immigration to promote homeland security and public safety. Ref: https://www.ice.gov/about	
ICE (Industry Collaboration Event)	A NENA testing event that brings together vendors in an open, supportive, and collaborative environment that foster a spirit of technical cooperation. www.nena.org/NG911_ICE	
ICE (Interactive Connectivity Establishment)	A mechanism for endpoints to establish RTP connectivity in the presence of NATs and other middle-boxes.	

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ICO (Implementation and Coordination Office)	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. www.911.gov	
ICS (Incident Command System)	A standardized on-scene incident management concept designed specifically to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any single incident or multiple incidents without being hindered by jurisdictional boundaries. https://www.fema.gov/incident-command-system-resources	
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. Idle Circuit Tone indicates the former case.	
IDP (Identity Provider)	An entity which authenticates users and supplies services with a "token" that can be used in subsequent operations to refer to an authorized user.	
IDX (Incident Data eXchange)	A Functional Element that facilitates the exchange of Emergency Incident Data Objects (EIDOs) among other Functional Elements both within and external to an agency. (Previously called "IDE")	C
IEEE (Institute of Electrical and Electronic Engineers)	A publishing and standards making body responsible for many telecom and computing standards.	
IEPD (Information Exchange Package Document)	In NIEM, an exchange specification that is a collection of mutually supportive artifacts (including XML schema) that define the content of a specific information exchange.	

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IESG (Internet Engineering Steering Group)	A body composed of the Internet Engineering Task Force Chair and Area Directors.	
IETF (Internet Engineering Task Force)	Lead standard setting authority for Internet protocols.	
IJIS (Integrated Justice Information Systems Institute)	A 501(c)(3) nonprofit corporation, represents industry's leading companies who collaborate with local, state, tribal, and federal agencies to provide technical assistance, training, and support services for information exchange and technology initiatives. The mission of the IJIS Institute is to unite the private and public sectors to improve critical information sharing for those who provide public safety and administer justice in our communities. www.ijis.org	
ILEC (Incumbent Local Exchange Carrier)	A telephone company that had the initial telephone company franchise in an area.	
IM (Instant Messaging)	A method of communication generally using text where more than a character at a time is sent between parties nearly instantaneously.	
IMEI (International Mobile Equipment Identity)	A 15- or 17-digit code that uniquely identifies mobile phone sets. The IMEI code can enable a GSM (Global System for Mobile communication) or UMTS (Universal Mobile Telecommunications Service) network to prevent a misplaced or stolen phone from initiating calls. http://whatis.techtarget.com/definition/IMEI-International-Mobile-Equipment-Identity	
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.).	

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IMR (Interactive Media Response)	An automated service used to play announcements, record responses and interact with callers using any or all of audio, video and text.	
IMS (Internet Protocol Multimedia Subsystem)	Comprises all 3GPP/3GPP2 core network elements providing IP multimedia services that support audio, video, text, pictures alone or in combination delivered over a packet switched domain.	
IMSI (International Mobile Station Identity)	A unique number, usually fifteen digits, associated with Global System for Mobile Communications (GSM) and Universal Mobile Telecommunications System (UMTS) network mobile phone users. The IMSI is a unique number identifying a GSM subscriber. https://www.techopedia.com/definition/5067/international-mobile-subscriber-identity-imsi	
IN (Intelligent Network)	The standard network architecture specified in the ITU-T Q.1200 series recommendations. It is intended for fixed as well as mobile telecom networks. It allows operators to differentiate themselves by providing value-added services in addition to the standard telecom services such as PSTN, ISDN and GSM services on mobile phones.	
Incident	A real-world occurrence for which one or more calls may be received.	
Incident Tracking Identifier	An identifier assigned by the first element in the first ESInet that handles an emergency call or declares an incident. Incident Tracking Identifiers are globally unique.	
INCITS (International Committee for Information Technology Standards)	A U.S.-based Standards Development Organization dedicated to the creation of information technology standards. www.incits.org	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
INF (NENA Information Document)	NENA Information (INF) documents are published to distribute information on a particular subject to the public safety community. Information documents may contain background information, best practices, check lists, and other material representing the collective knowledge and experiences of the NENA community. These documents do not contain normative statements and are not intended to be used to establish conformance requirements in procurement or development activities. The NENA INF Template may be downloaded from the Administrative Procedures & Templates Documents Page on NENA Workspace.	
INP (Interim Number Portability)	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.	
Instant Playback Recorder	See Instant Recall Recorder	
Integrated TTY	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.	
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.	
Internal Clock	A time-of-day reference source for timing information in equipment or systems.	
Interoperability	The capability for disparate systems to communicate with one another.	
Interpretalk	A brand name telephonic language interpreter service.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
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.	
IP (Internet Protocol)	The method by which data is sent from one computer to another on the Internet or other networks.	
IP (Internet Protocol) 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.	
IP (Internet Protocol) Client	Used to refer to the IP endpoint communications equipment or application that is used to originate a voice, video or text request for emergency services (e.g., by calling 9-1-1). The term IP device or IP endpoint may also be used.	
IP (Internet Protocol) Endpoint	See IP Client	
IP Relay Service (Internet Protocol Relay Service)	A call center service similar to VRS that provides a third-party communications relay between Internet texting users (mobile or stationary) and voice telephone users.	
IP Telephony (Internet Protocol 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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
IPAWS (Integrated Public Alert Warning System)	A modernization and integration of the nation's alert and warning infrastructure, Federal, State, local, tribal and territorial alerting authorities can use IPAWS and integrate local systems that use Common Alerting Protocol standards with the IPAWS infrastructure. IPAWS provides public safety officials with an effective way to alert and warn the public about serious emergencies using the Emergency Alert System (EAS), Wireless Emergency Alerts (WEA), the National Oceanic and Atmospheric Administration (NOAA) Weather Radio, and other public alerting systems from a single interface. https://www.fema.gov/integrated-public-alert-warning-system	
IPBX or IP PBX (Internet Protocol Private Branch Exchange)	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.	
IP-CAN (Internet Protocol-Connectivity Access Network)	The collection of network entities and interfaces that provides the underlying IP transport connectivity between the user endpoint and the IMS entities.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
IP-COAD (Internet Protocol-Coordination Ad-Hoc Committee)	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.	
ipm (Interrupts per minute)	The rate at which an audible tone is returned to the calling party to indicate the call cannot be processed through the network (busy trunk).	
IPR (Intellectual Property Rights)	Includes patents, published and unpublished patent applications, copyrights, trademarks, and trade secret rights, as well as any intellectual property right resembling a member of the foregoing list as such right may exist in a particular jurisdiction. www.nena.org/IPR	
IPSec (Internet Protocol Security)	The next-generation network layer crypto platform. IPSec can be found on routers, firewalls, and client desktops. It is a framework for a set of protocols for security at the network or packet processing layer of network communication. IPsec provides two choices of security service: Authentication Header (AH), which essentially allows authentication of the sender of data, and Encapsulating Security Payload (ESP), which supports both authentication of the sender and encryption of data as well.	
IPv4 (Internet Protocol Version 4)	The fourth version of the Internet Protocol; uses 32-bit addresses.	
IPv6 (Internet Protocol Version 6)	The most recent version of the Internet Protocol; uses 128-bit addresses.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
IRIG (Inter-Range Instrumentation Group)	This group, in 1959, proposed a series of time code formats now known as IRIG or NASA time codes. The best known IRIG standard is the IRIG timecode used to timestamp video, film, telemetry, radar, and other data collected at test ranges. http://irig.org/	
IRR (Instant Recall Recorder)	Records audio from telephone and radio allowing users to play back conversations on the fly.	
IS-ADR (Identity Searchable Additional Data Repository)	An Additional Data Repository that provides a service that can search for Additional Data based on a sip/sips or tel URI: (e.g., Additional Data for the caller).	
ISDN (Integrated Services Digital Network)	International standard for a public communication network to handle circuit-switched digital voice, circuit-switched data, and packet-switched data.	
ISF (Issue Submission & Charter Form)	A form used to submit ideas to the Development Steering Council for possible assignment to a Development Committee. www.nena.org/Submit_IssueNDG	
ISO (International Standards Organization)	An independent, non-governmental international organization with a membership of 161 national standards bodies. www.iso.org	
ISOC (Internet Society)	A professional membership society that 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).	
ISP (Internet Service Provider)	A company that provides Internet access to other companies and individuals	
ISSI (Inter-RF Sub System Interface)	A radio over IP communications protocol defined in Telecommunications Industry Association standard TIA-102.BACA.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
ISUP (Integrated Services Digital Network User Part)	A message protocol to support call set up and release for interoffice voice call connections over SS7 Signaling.	
iTRS (Internet Telecommunications Relay Service)	Generic acronym for all Internet based forms of TRS; refers to a telecommunications relay service (TRS) in which an individual with a hearing or a speech disability connects to a TRS communications assistant using an Internet Protocol-enabled device via the Internet, rather than the public switched telephone network. Internet-based TRS does not include the use of a text telephone (TTY) over an interconnected voice over Internet Protocol service.	
iTRS (Internet (based) Telecommunications Relay Service)	Generic acronym for all Internet based forms of TRS; refers to a telecommunications relay service (TRS) in which an individual with a hearing or a speech disability connects to a TRS communications assistant using an Internet Protocol-enabled device via the Internet, rather than the public switched telephone network. Internet-based TRS does not include the use of a text telephone (TTY) over an interconnected voice over Internet Protocol service.	
ITS (Intelligent Transportation System)	Encompass a broad range of wireless and wire line communications-based information and electronics technologies. www.its.dot.gov	
ITSP (Internet Telephone Service Provider)	A Company offering 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.	
ITSP (Internet Telephony Service Provider)	A Company providing Internet based telephony services.	

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ITU (International Telecommunication Union)	The telecommunications agency of the United Nations established to provide worldwide standard communications practices and procedures. Formerly CCITT	
ITU-D (International Telecommunication Union – Development) (Sector)	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.	
ITU-R (International Telecommunication Union – Radiocommunication) (Sector)	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.	
ITU-T (International Telecommunication Union – Telecom) (Sector)	International standards body for all communications services.	
IVR (Interactive Voice Response)	A technology that allows a computer to interact with humans where a person can hear a computer-generated voice and respond by speaking or generating DTMF tones on a keypad. A "Ported Number IVR" is 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.	
IWS (Intelligent Workstation)	Computer based 9-1-1 answering position equipment that includes computer telephony integration.	

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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.	
Join, Joining	The process of linking table records by matching data field values common to both tables.	
KP (Key Pulse)	An MF signaling tone (digit)	
L2TP (Layer-2 Tunneling Protocol)	Allows Point to Point Protocol (PPP) sessions to be tunneled over IP and ATM networks	
LAN (Local Area Network)	A transmission network encompassing a limited area, such as a single building or several buildings in close proximity.	
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.	
LATA (Local Access and Transport Area)	The geographical areas within which a local telephone company offers telecommunications services.	
Layer	A spatial dataset containing a common feature type. Layers are also referred to as themes.	
LbyR (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.	
LbyV (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.	
LCR (Least Cost Routing)	The process of analyzing, selecting and directing the path of outbound and inbound communications traffic, depending on which path delivers the best rates.	

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LDB (Location Database)	A server that retains all of the current information, functionality, and interfaces of today's ALI and can utilize the new protocols required in an NG9-1-1 deployment.	
LDT (Location Determination Technology)	A system which computes the x and y coordinates of a wireless 9-1-1 caller, and z, where applicable. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	C
LEC (Local Exchange Carrier)	A Telecommunications Carrier (TC) under the state/local Public Utilities Act that provides local exchange telecommunications services. Also known as: • Incumbent Local Exchange Carriers (ILECs) • Alternate Local Exchange Carriers (ALECs) • Competitive Local Exchange Carriers (CLECs) • Competitive Access Providers (CAPs) • Certified Local Exchange Carriers (CLECs) • Local Service Providers (LSPs) • Certified Telecommunications Utility (CTU) • Competitive Local Provider (CLP)	
Legacy 9-1-1 System Service Provider	Traditional ILEC acting as a 9-1-1 System Service Provider	

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LEO (Law Enforcement Online)	A secure, Internet-based information sharing system for agencies around the world that are involved in law enforcement, first response, criminal justice, anti-terrorism, and intelligence. With LEO, members can access or share sensitive but unclassified information anytime and anywhere. https://www.fbi.gov/services/cjis/cjis-link/law-enforcement-online-enterprise-portal-makes-access-more-convenient	
LERG (Local Exchange Routing Guide)	A database which defines inter-exchange call routing in the North American Public Switched Telephone Network. It associates NPA/NXX's with their appropriate network elements.	
LiDAR (Light Detection and Ranging)	An airborne, spaceborne or ground-based laser-ranging technique commonly used for acquiring high-resolution topographic data. www.usgs.gov	
LIE (Location Information Element)	A protocol container for either or both of: • one Location Key (LK) • one Presence Information Data Format (PIDF) document	
LIF (Location Interwork Function)	The functional component of a Legacy Network Gateway which is responsible for taking the appropriate information from the incoming signaling (i.e., calling number/ANI, ESRK, cell site/sector) and using it to acquire location information that can be used to route the emergency call and to provide location information to the PSAP. In a Legacy PSAP Gateway, this functional component takes the information from an ALI query and uses it to obtain location from a LIS.	

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LIFELINE (National Suicide Prevention Lifeline)	The National Suicide Prevention Lifeline is a national network of local crisis centers that provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.	
LIS (Location Information Server)	A functional element in an IP-capable originating network that provides locations of endpoints (i.e., calling device). A LIS can provide Location-by-Reference, or Location-by-Value, and, if the latter, in geo or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint. In either case, the LIS receives a unique identifier that represents the endpoint, for example an IP address, circuit-ID or Media Access Control (MAC) address, and returns the location (value or reference) associated with that identifier. The LIS is also the entity that provides the dereferencing service, exchanging a location reference for a location value.	
LIS (Location Information Server) Operator	Operates the LIS associated with the IP access network used by the callers.	
LIS-ID (Location Information Server Identifier)	An identifier for the LIS in which the location object (LO) is stored.	
LK (Location Key)	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: • 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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
LNG (Legacy Network Gateway)	An NG9-1-1 Functional Element that provides an interface between a non-IP originating network and a Next Generation Core Services (NGCS) enabled network.	
LNP (Local Number Portability)	A process by which a telephone number may be reassigned from one Local Exchange Carrier to another.	
LO (Location Object)	In an emergency calling environment, the LO is used to refer to the current position of an endpoint that originates an emergency call. The LO is expected to be formatted as a Presence Information Data Format – Location Object (PIDF-LO) as defined by the IETF in RFC 4119, updated by RFCs 5139, 5491 and 7459, and extended by RFC 6848. The LO may be: • Geodetic – shape, latitude(s), longitude(s), elevation, uncertainty, confidence and the datum which identifies the coordinate system used. NENA prescribes that geodetic location information will be formatted using the World Geodetic System 1984 (WGS 84) datum; • Civic location – a set of elements describing detailed street address information. For NG9-1-1 in the U.S., the civic LO must conform to NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard (NENA-STA-004); • or a combination thereof.	
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.	

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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 notifies an attendant or designated personnel to identify the location of the telephone that has dialed 9-1-1.	
Local NPAC (Number Portability Administration Center) Database	The eight (8) regional Number Portability Administration Center Databases which contain current Service Provider switching specific information about TNs involved in porting activity.	

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Location	**Per Esri Glossary:** • An identifier assigned to a region or feature. • A position defined by a coordinate value. **Routable Location:** In NG9-1-1, a PIDF-LO, represented as a civic location or geodetic location that contains enough detail for accurately routing a call to a PSAP serving the location. **Dispatchable Location:** **NENA:** A location determined by a telecommunicator that is derived from an ALI Response (in E9-1-1) or derived from a PIDF-LO (in NG9-1-1) represented as a civic location or geodetic location and sometimes modified after communication with a caller that contains enough detail for accurately dispatching emergency responders to a location. **FCC Fourth Report & Order:** A location delivered to the PSAP with a 9-1-1 call that consists of the street address of the calling party, plus additional information such as suite, apartment or similar information necessary to adequately identify the location of the calling party. **Caller Location:** A location provided in an ALI Response (in E9-1-1) or a PIDF-LO (in NG9-1-1), represented as a civic location or geodetic location, that identifies the location of the caller. In NG9-1-1, this is often the same as the routable location but may change during a 9-1-1 call. **Civic Location:** A location that represents a physical street address, landmark name, etc. **Geodetic Location:**	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
	A location that represents a geographic object such as a point, circle, arc-band or polygon. **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. **Registered Caller Civic Location:** The civic address of the caller that is the result of registration by the customer or provisioning by the carrier.	
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 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.	

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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 and Acquisition Functions	Location determination includes the functions necessary to accurately and automatically (without input from the user) determine the position of the IP device and associate that location information uniquely with that device. Location acquisition refers to the functions necessary to make that location information available to the device on request, or to make that location information available to a Proxy acting on behalf of that device so that location information can be used for emergency calling.	
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 Information	The actual geo or civic location data independent of its containers, protocols or reference mechanisms.	
Location Recipient	In the context of location information to support IP based emergency services: 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.	

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Location Sanity Check Mechanism	An automatic verification process that once a non-wireless handset device is connected to AC power source for use enables the wireless network to verify whether the customer is at the Registered Caller Civic Location.	
Location URI	A URI which, when dereferenced, yields a location value in the form of a PIDF-LO. Location-by-reference in NG9-1-1 is represented by a Location URI.	
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.	
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-incapable	Used to describe IP devices that are not capable of requesting, acquiring, or storing location information. This includes most current IP devices.	
Location-unaware	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.	
Logging Recorder	A device that records, stores and is capable of playing back all communication media within the domain to which it is assigned. Media can include, but is not limited to voice, radio, text and network elements involved with routing a 9-1-1 call. Logging recorders should have the capability to simultaneously record from several sources.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Logical Demarcation	A mutually-defined boundary dividing one area of responsibility for managing NG9-1-1 functional elements from another. The interfaces for these functional elements include the interfaces for intangible assets, such as data stores and applications.	
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 (Location-to-Service Translation) Protocol	A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG9-1-1, used as the protocol for the ECRF and LVF.	
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.	
LPG (Legacy PSAP Gateway)	A signaling and media interconnection point between an ESInet and a legacy PSAP. It plays a role in the delivery of emergency calls that traverse an i3 ESInet to get to a legacy PSAP, as well as in the transfer and alternate routing of emergency calls between legacy PSAPs and NG9-1-1 PSAPs. The Legacy PSAP Gateway supports an IP (i.e., SIP) interface towards the ESInet on one side, and a traditional MF or Enhanced MF interface (comparable to the interface between a traditional Selective Router and a legacy PSAP) on the other.	

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LQF (Location Query Function)	Uses a dereferencing protocol (SIP or HTTP) to exchange a location reference (LbyR) for location information (LbyV).	
LRF (Location Retrieval Function)	The IMS associated functional entity that handles the retrieval of location information for the emergency caller including, where required, interim location information, initial location information and updated location information. The LRF may interact with a separate RDF or contain an integrated RDF in order to obtain routing information for an emergency call.	
LRO (Last Routing Option)	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.	
LSMS (Local Service Management System) Database	The LSP owned network database 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.	
LSO (Local Service Office)	The central office (CO) from which a subscriber is served. See Serving Central Office, Central Office (CO)	
LSP (Local Service Provider)	A Telecommunications Carrier (TC) under the state/local Public Utilities Act that provides local exchange telecommunications services.	

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LSR (Local Service Request)	An industry-standard form sent to the existing (or "old") provider by a provider upon receiving a request to port a telephone number from a new customer.	
LSRG (Legacy Selective Router Gateway)	Provides an interface between a 9-1-1 Selective Router and an ESInet, enabling calls to be routed and/or transferred between Legacy and NG networks. A tool for the transition process from Legacy 9-1-1 to NG9-1-1.	
LSSGR (LATA Switching Systems Generic Requirements)	A set of Telcordia (formerly Bellcore) specifications defining the requirements of LATA switching systems.	
LTE (Long Term Evolution)	A standard for wireless communication of high-speed data for mobile phones and data terminals developed by the 3rd Generation Partnership Project (3GPP).	
LVF (Location Validation Function)	A functional element in an NGCS that is a LoST protocol server where civic location information is validated against the authoritative GIS database information. A civic address is considered valid if it can be located within the database uniquely, is suitable to provide an accurate route for an emergency call and adequate and specific enough to direct responders to the right location.	
Macrocell	A wireless carrier installed and activated cell that may have a radius range of approximately at least one kilometer but up to 20 kilometers (or approximately one-half mile to 12 miles) and provide access to all wireless handsets and access devices.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Management Console	A Functional Element that supports general management functions for the PSAP. It also sends and receives Discrepancy Reports on behalf of the PSAP. Ref: NENA-REQ-001 Next Generation 9-1-1 Public Safety Answering Point Requirements	
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.	
Mapping	The act of determining a value in one domain from a value in another domain. For example, mapping a location to the URI of a PSAP that serves that location using the LoST protocol.	
Mapping Data Service	A service that returns images or features stored in a GIS that can be used to create a display for a telecommunicator, or facilitate spatial analyses. Often used to provide maps for handling out of area calls, the Mapping Data Service can also be used locally to provide a single, uniform map display for all functional elements in a PSAP that need maps.	
Mass Calling Event	A period of high 9-1-1 call volume triggered by an accident, man-made, natural, or weather-related event	
Master Clock	An accurate timing device that generates synchronization signals to control other clocks or equipment.	

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MCC (Mobile Competence Centre)	Provides support to the 3rd 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.	
MCS (MSAG Conversion Service)	A web service providing conversion between PIDF-LO and MSAG data.	
MDC (Mobile Data Communications)	The use of radio waves to send and receive information.	
MDF (Main Distribution Frame)	A cable rack used to interconnect and manage telecommunication wiring connecting equipment inside a telecommunications facility to cables and subscriber carrier equipment.	
MDN (Mobile Directory Number)	The telephone number dialed to reach a wireless telephone.	
MDT (Mobile Data Terminal)	A computerized device used in a vehicle to exchange information between an end user and a communications center.	
MEID (Mobile Equipment Identity)	A form of electronic serial number that is a unique identifier for a mobile device.	
MEP (Message Exchange Pattern)	The pattern of messages required by a communications protocol to establish or use a communication channel.	
MESSAGE	A SIP method which passes information, often an Instant Message, between endpoints in the body of the SIP message.	

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Metrocell	A type of small cell that is generally wireless carrier installed and activated; may have a cell radius range of approximately 150 to 300 meters (or approximately 500 to 1000 feet).	
MF (Multi-Frequency)	A type of in-band signaling used on analog interoffice and 9-1-1 trunks.	
MGCP (Media Gateway Control Protocol)	A protocol used to convert signaling between the PSTN to VoIP networks. See RFC 3435	
MIB (Management Information Base)	An object used with the Simple Network Management Protocol to manage a specific device or function.	
Microcell	A type of small cell that is generally wireless carrier installed and activated;=may have a cell radius range of approximately 2 kilometers (or approximately 1 mile).	
MIME (Multipurpose Internet Mail Extensions)	A specification for formatting non-ASCII messages so that they can be sent over the Internet.	
MIN (Mobile Identification Number)	A 34-bit binary number that a wireless handset transmits to identify itself to the wireless network.	
MIS (Management Information System)	A program that collects, stores and collates data into reports enabling interpretation and evaluation of performance, trends, traffic capacities, etc.	
Misroute	A term used to describe when a 9-1-1 call is routed to an incorrect PSAP due to a network or database discrepancy.	

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Misrouted Call	A Call routed to a PSAP that should not have received it due to a provisioning error (for example in the ECRF, in the PRF, or the LIS) or other misconfigurations. Ref: NENA-STA-019, NG9-1-1 Call Processing Metrics Standard	A
MITM (Man in the Middle)	An attack method that allows an intruder to access sensitive information by intercepting and altering communications between the user of a public network and any requested element.	
MLP (Mobile Location Protocol)	A protocol that may be used for mobile location queries.	
MLTS (Multi-Line Telephone System)	A system comprised of common control unit(s), telephone sets, control hardware and software and adjunct systems used to support the capabilities outlined herein. This includes network and premises-based systems. E.g., Centrex, VoIP, as well as PBX, Hybrid, and Key Telephone Systems (as classified by the FCC under Part 68 Requirements) and includes systems owned or leased by governmental agencies and non-profit entities, as well as for profit businesses.	
MLTS (Multi-Line Telephone System) Manager	The entity authorized to implement an MLTS, either through purchase or lease of an MLTS or the purchasing of MLTS services, as the means by which to make 9-1-1 calls.	
MLTS (Multi-Line Telephone System) Operator	The entity responsible for ensuring that a 9-1-1 call placed from an MLTS is transmitted and received in accordance with NENA 06-750 regardless of the MLTS technology used to generate the call. The MLTS Operator may be the MLTS Manager or a third-party acting on behalf of the MLTS Manager.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
MMS (Multimedia Messaging Service)	A standard way to send messages that extends the core SMS (Short Message Service) capability to include multimedia content to and from a mobile phone over a cellular network. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
MOA (Memorandum of Agreement)	A document written between parties to cooperatively work together on an agreed upon project or meet an agreed upon objective. Also known as: cooperative agreement	
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.	
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 failure condition).	
Mobile Switching Center Trunk Alternate Route	The routing condition that occurs when all trunks from the MSC to SR are out of service and calls need to be routed to the PSAP. The scenario represents an MSC to SR trunk failure condition versus an all trunks busy condition.	
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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
MOU (Memorandum of Understanding)	A document that expresses mutual accord on an issue between two or more parties.	
MPC/GMLC (Mobile Positioning Center/ Gateway Mobile Location Center)	A Functional Entity that provides an interface between the wireless originating network and the Emergency Services Network. The MPC/GMLC retrieves, forwards, stores and controls position data within the location services network. It interfaces with the location server (e.g., Position Determining Entity (PDE)) for initial and updated position determination. The MPC/GMLC restricts access to provide position information only while an emergency call is active.	
MPCAP (Mobile Positioning Capability)	A dataset containing the Electronic Serial Numbers of provisioned handsets indicating their capability of providing location information. This information is used to trigger a location query to the PDE. See TIA J-STD-036	
MPLS (Multi-Protocol Label Switching)	A type of data-carrying technique for high-performance telecommunications networks that directs data from one network node to the next based on short path labels rather than long network addresses, avoiding complex lookups in a routing table. A mechanism that allows network administrators to perform a measure of traffic engineering within their networks.	
MS (Mobile Station)	The end user making the emergency services call.	
MSC (Mobile Switching Center)	The wireless equivalent of a Central Office, which provides switching functions from wireless calls.	
MSID (Mobile Station Identity)	A unique identifier for a wireless phone used as a paging identity to complete an emergency call from a PSAP. The MSID may be an International Mobile Subscription Identity (IMSI) or a Mobile Identification Number (MIN) programmed into the phone by a service provider.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
MSISDN (Mobile Station ISDN Number)	The calling/callback number of a wireless phone. (See MDN)	
MSO (Mobile Switching Office)	See Mobile Switching Center (MSC)	
MSRP (Message Session Relay Protocol)	A standardized mechanism for exchanging instant messages using SIP where a server relays messages between user agents.	
MTA (Multimedia Terminal Adapter)	Device that converts an analog telephone signal to a digital signal to allow an analog phone to communicate over networks using Internet Protocol.	
MTP (Message Transfer Point)	A layer of the SS7 protocol providing the routing and network interface capabilities to support call setup.	
Multipart GIS Feature	A GIS feature that has multiple geographically discrete parts (for example, multipoint or multipolygon), but is considered as a whole and is related to a single database table record.	
Mutual Aid Agreement	Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.	
NAD83 (North American Datum 83)	A geographic coordinate system, based on modern satellite measurements of the shape of the earth, used to represent spatial features on a flat map display.	
Namespace Name	The full-form name of a namespace. For example, "Library Of Congress Catalogue Number" or "urn:oasis names:tc:emergency:cap:1.1" (the XML namespace name assigned to the OASIS Common Alerting Protocol schema definitions). A namespace name is a URI.	
Namespace Prefix	The equivalent of namespace qualifier in XML – a short-form synonym for a namespace URI.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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 namespace-qualified. For example, LCCN is used for the "Library of Congress Catalogue Number" namespace.	
NANOG (North American Network Operators Group)	A governing body that provides guidance and instructions for the design of an IP network. NANOG is typically involved in the best current operational practices for IPv6 planning.	
NANP (North American Numbering Plan)	An integrated telephone numbering plan serving 20 North American countries that share telephone numbers in the +1 country code. www.nationalnanpa.com	
NANPA (North American Numbering Plan Administration)	The organization that has overall administrative responsibility of the North American Numbering Plan (NANP), an integrated telephone numbering plan serving 20 North American countries that share its resources. www.nationalnanpa.com	
NAPT (Network Address and Port Translation)	A methodology of remapping one IP address and port into another by modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device.	
NAS (Network Access Server)	A computer server that enables an independent service provider (ISP) to provide connected customers with Internet access.	
NAS (Network Attached Storage)	A type of dedicated file storage device that provides local-area network local area network (LAN) nodes with file-based shared storage through a standard Ethernet connection.	
NASAR (National Association of Search and Rescue)	Non-profit Association dedicated to advancement of professional, literary and scientific knowledge and training in the Search and Rescue Field.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NASNA (National Association of State 9-1-1Administrators)	An association that represents state 911 programs in the field of emergency communications. www.nasna911.org	
NAT (Network Address Translation)	Maps a single public address to one, or many internal addresses and all network IP addresses on the connected computers are local and cannot be seen by the outside world.	
NCAS (Non Call-path Associated Signaling)	A method for delivery of wireless 9-1-1 calls in which the Mobile Directory Number and other call associated data are passed from the Mobile Switching Center to the PSAP outside the voice path.	
NCCIC (National Cybersecurity and Communications Integration Center)	Part of the Department of Homeland Security (DHS) that serves as a central location where a diverse set of partners involved in cybersecurity and communications protection coordinate and synchronize their efforts. NCCIC's partners include other government agencies, the private sector, and international entities. Working closely with its partners, NCCIC analyzes cybersecurity and communications information, shares timely and actionable information, and coordinates response, mitigation and recovery efforts. Formerly known as US-CERT. www.us-cert.gov/nccic	
NCIC (National Crime Information Center)	An FBI (Federal Bureau of Investigation) computerized index of criminal justice information (i.e. - criminal record history information, fugitives, stolen properties, missing persons). It is available to Federal, state, and local law enforcement and other criminal justice agencies and is operational 24 hours a day, 365 days a year. www.fbi.gov/services/cjis/ncic	
NCMEC (National Center for Missing and Exploited Children®)	Opened in 1984 to serve as the nation's clearinghouse on issues related to missing and sexually exploited children. www.missingkids.com	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NDG (NENA Development Group)	The group consisting of all of the NENA Development Committees (Standing and Special Purpose/Limited Duration) that develop Standards and other types of NENA documents. The Development Group is governed by the Development Steering Council (DSC). The NDG organizational structure is defined in NENA-ADM-001.	
NDG (NENA Development Group) Committee/WG Member	The inclusion of persons in NENA Committee/WG activities that may not be NENA Members, as defined by that specific term.	
NECA (National Exchange Carrier Association)	A membership association of U.S. local telecommunications companies dedicated to keeping customers connected on state-of-the-art communications networks. www.neca.org	
NENA (National Emergency Number Association)	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. www.nena.org	
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 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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NFPA (National Fire Protection Association)	A global nonprofit organization, established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. www.nfpa.org	
NG9-1-1 (Next Generation 9-1-1)	An Internet Protocol (IP)-based system comprised of managed Emergency Services IP networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provides additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for Public Safety Answering Points (PSAPs) and other emergency service organizations. Ref: Detailed Functional and Interface Standards for the NENA i3 Solution Additional information is available at: https://www.nena.org/general/custom.asp?page=NG911_Baseline http://www.nena.org/resource/resmgr/ng9-1-%201_project/whatisng911.pdf	A

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NG9-1-1 (Next Generation 9-1-1) Services	A secure, IP-based, open-standards system comprised of hardware, software, data, and operational policies and procedures that (A) provides standardized interfaces from emergency call and message services to support emergency communications; (B) processes all types of emergency calls, including voice, text, data, and multimedia information; (C) acquires and integrates additional emergency call data useful to call routing and handling; (D) delivers the emergency calls, messages, and data to the appropriate public safety answering point and other appropriate emergency entities based on the location of the caller; (E) supports data, video, and other communications needs for coordinated incident response and management; and (F) interoperates with services and networks used by first responders to facilitate emergency response. Ref: Agreed to by NENA, NASNA, iCERT, and the National 9-1-1 Office representatives on 01/12/2018. See https://uscode.house.gov/view.xhtml?req=(title:47%20section:942%20edition:prelim)	
NGCS (Next Generation 9-1-1 Core Services)	The base set of services needed to process a 9-1-1 call on an ESInet. Includes the ESRP, ECRF, LVF, BCF, Bridge, Policy Store, Logging Services and typical IP services such as DNS and DHCP. The term NG9-1-1 Core Services includes the services and not the network on which they operate. See Emergency Services IP Network.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NG-SEC (Next Generation 9-1-1 Security)	Short name for NENA Standard 75-001, Security for Next-Generation 9-1-1 (NG-SEC).	
NGUID (NENA Globally Unique ID)	A globally unique ID generated and maintained within a GIS database by combining a "locally unique ID" (an alphanumeric string unique within the aggregated local GIS database) and the "Agency Identifier" (a domain representing that authority). Ref: NENA-STA-006, NENA Standard for NG9-1-1 GIS Data Model	A
NHTH (National Human Trafficking Hotline)	A national anti-trafficking hotline and resource center serving victims and survivors of human trafficking and the anti-trafficking community in the United States. http://www.humantraffickinghotline.org	
NHTRC (National Human Trafficking Resource Center)	A national anti-trafficking hotline and resource center serving victims and survivors of human trafficking and the anti-trafficking community in the United States. http://www.humantraffickinghotline.org	
NHTSA (National Highway Traffic Safety Administration)	An agency of the Executive Branch of the U.S. government, part of the Department of Transportation. It describes its mission as "Save lives, prevent injuries, reduce vehicle-related crashes." The National 9-1-1 Program is housed under NHTSA. www.nhtsa.gov	
NIC (National Integration Center)	Part of the Department of Homeland Security that is responsible for managing the implementation and administration of the National Incident Management System (NIMS). http://www.emergency-response-planning.com/blog/bid/54234/the-national-integration-center-and-nims	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NIEM (National Information Exchange Model)	A community-driven, standards-based, national model for structured information sharing. www.niem.gov	
NIF (NG9-1-1 Specific Interwork Function)	The functional component of a Legacy Network Gateway or Legacy PSAP Gateway which provides NG9-1-1 specific processing of the call not provided by an off-the-shelf protocol interwork gateway.	
NIMS (National Incident Management System)	A systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work together seamlessly and manage incidents involving all threats and hazards—regardless of cause, size, location, or complexity—in order to reduce loss of life, property and harm to the environment. Ref: NENA-INF-017.3-2018, NENA Communications Center/PSAP Disaster and Contingency Plans Model Recommendation NIMS website: http://www.fema.gov/national-incident-management-system	C
NISO (National Information Standards Organization)	A non-profit association accredited by the American National Standards Institute (ANSI), identifies, develops, maintains, and publishes technical standards to manage information in our changing and ever-more digital environment. NISO standards apply both traditional and new technologies to the full range of information-related needs, including retrieval, re-purposing, storage, metadata, and preservation. http://www.niso.org	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NIST (National Institute of Standards and Technology)	A part of the United States Department of Commerce that oversees the operation of the U.S. National Bureau of Standards. NIST works with industry and government to advance measurement science and to develop standards in support of industry, commerce, scientific institutions, and all branches of government. Their mission is to promote innovation and industrial competitiveness. www.nist.gov	
NJTI (National Joint TERT Initiative)	A partnership between APCO and NENA that has worked to develop the many facets of a TERT program and to help states develop who do not yet have an active TERT program. TERT involves a comprehensive program that includes assistance to individual states in developing programs that would lead to the establishment of predetermined and selected trained teams of individuals who can be mobilized quickly and deployed to assist communications centers during disasters. www.njti-tert.org	
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).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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-Selective Routing	The routing of 9-1-1 calls based on the NXX or trunk group.	
Notifier	An element in an asynchronous event notification mechanism that transmits events.	
NOTIFY	A SIP method used to send a notification to a subscriber of the occurrence of an asynchronous event.	
NPA (Numbering Plan Area)	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.	
NPAC (Number Portability/Pooling Administration Center)	Porting data is available throughout the U.S. from the NPAC database via IVR access. Throughout the 02-011 document referral to access porting data, does NOT mean IVR access.	
NPD (Numbering Plan Digit)	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.	
NPRM (Notice of Proposed Rulemaking)	A public notice issued by law when one of the independent agencies of the United States government wishes to add, remove, or change a rule or regulation as part of the rulemaking process.	
NRF (No Record Found)	A condition where no ALI information is available for display at the PSAP.	
NRS (NENA Registry System)	The entity provided by NENA to manage registries. http://technet.nena.org/nrs/registry/_registries.xml	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
NRSC (Network Reliability Steering Committee)	A committee of ATIS, the NRSC provides timely consensus-based technical and operational expert guidance and best practices to all segments of the public communications industry. www.atis.org	
NRTL (Nationally Recognized Testing Laboratory)	An OSHA program that recognizes private sector organizations to perform certification for certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards. https://www.osha.gov/dts/otpca/nrtl/	
NSI (Non-Service Initialized)	A mobile device for which there is no valid service contract with any CMRS provider. As such, NSI devices have no associated subscriber name and address, do not provide a call-back number, and may not provide location.	
NSP (Network Service Provider)	A business entity that provides or sells services such as network access and bandwidth by allowing access into its backbone infrastructure or access to its network access points (NAP), which consequently also means access to the Internet. Network service providers are very similar to or can even be considered the same as Internet service providers (ISPs), but in most cases they are the ones providing backbone services to the ISPs. https://www.techopedia.com/definition/27327/network-service-provider-nsp	
NTP (Network Time Protocol)	A networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.	
NTSB (National Transportation Safety Board)	An independent U.S. government investigative agency responsible for civil transportation accident investigation. www.ntsb.gov	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
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.	
OASIS (Organization for the Advancement of Structured Information Standards)	A standards development organization that promulgates standards for data interchange. www.oasis-open.org	
OCSP (Online Certificate Status Protocol)	One of two common schemes for maintaining the security of a server and other network resources. The other method, which OCSP has superseded in some scenarios, is known as Certificate Revocation List (CRL).	
OGC (Open Geospatial Consortium)	A standards development organization that promulgates standards for the global geospatial community. http://www.opengeospatial.org/	
OLI (Originating Line Identification parameter)	A parameter that conveys class of service information about the originator of a call.	
OMA (Open Mobile Alliance	A standards development organization which develops standards for the mobile phone industry. openmobilealliance.org	
On-Time-Point	The leading edge of a pulse which occurs coincident with the beginning of a second.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
OPTIONS	A SIP method used to request the SIP protocol options supported by an endpoint.	
OPX (Off-Premises Extension)	A dedicated circuit connecting a distant location to a main PBX to provide the same phone system features available at the main location. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Originating Carrier	An entity that provides telecommunications services to an end user placing a call.	
Originating ESInet	The first emergency services network in the call flow. Originating networks (those initiating 9-1-1 calls) deliver their emergency calls to this network. An originating ESInet will make routing decisions and may forward the emergency call to another ESInet for routing to the PSAP.	
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)	
Origination Network	The network which originates a 9-1-1 call. Includes the access network and the calling network. Typically operated by carriers or other service providers.	
ORR (Office of Refugee and Resettlement)	Part of the United States Department of Health and Human Services that helps new populations maximize their potential in the United States by linking them to critical resources that assist them in becoming integrated members of American society. http://www.acf.hhs.gov/orr	
OSI (Open Systems Interconnection)	A conceptual reference model that characterizes and standardizes the communication functions of a telecommunication or computing **system** without regard to their underlying internal structure and technology.	
OSPF (Open Shortest Path First)	A routing protocol for Internet Protocol (IP) networks to find the best path for packets to travel.	
OSS (Operational Support Systems)	A set of programs that help a communications service provider monitor, control, analyze and manage a telephone or computer network.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
OTT (over-the-top)	A technology that bypasses traditional network distribution approaches and runs over, or on top of, core Internet networks. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
Outgoing Alert Functional Element	A Functional Element that provides interfaces that allows an Agency to provide information to emergency services personnel or entities, or to the public at large.	
P.01 Grade of Service	See Grade of Service	
P25 (Project 25)	A suite of standards developed to provide digital voice and data communication systems suited to public safety and first responders. Project 25 was initiated by the Association of Public Safety Communications Officials (APCO).	
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 *datagram*, *frame*, *message*, and *segment* 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.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
pALI (Pseudo Automatic Location Identification)	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).	
PAN (Personal Area Network)	The interconnection of information technology devices within the range of an individual person, typically within a range of about 10 meters.	
pANI (Pseudo Automatic Number Identification)	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	
Parcel	As it relates to GIS, a representation of the boundaries of legal ownership of a single tract or plot of land or real property. It may or may not be spatially accurate.	
Parity	As it relates to GIS, refers to odd and even street address numbers. Odd numbers are located on one side of a street and even on the other, without integrating odd and even numbers on the same side of a street.	
Participant	A Member who has attended more than one meeting of a particular NENA Committee, as reflected in the committee minutes, and who has not terminated their involvement by giving written notice of withdrawal to the committee chair.	
Participating Entity	Any entity, including its affiliates that employs or Controls a Participant who participates in a NENA Committee.	
PAT (Port Address Translator)	An extension to NAT in that PAT uses TCP/UDP ports in addition to network addresses (IP addresses) to map many private network addresses to a single outside address. Also known as: NAPT	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
PBX (Private Branch Exchange)	A private telephone switch that is connected to the Public Switched Telephone Network.	
PCA (PSAP Credentialing Agency)	The root authority designated to issue and revoke security credentials (in the form of an X.509 certificate) to authorized 9-1-1 agencies in an i3-compliant infrastructure.	
P-CSCF (Proxy Call Session Control Function)	The first contact point for the user equipment (UE) within the IMS core network. For an IMS-based emergency call, the P-CSCF detects the emergency call and forwards it to an E-CSCF.	
PDE (Position Determining Entity)	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))	
PDOP (Position Dilution of Precision)	An indicator of the precision of the GPS measure. The lower the number the higher the accuracy.	
PHB (Per Hop Behaviors)	The action a router takes for a packet marked with a specific code point in the Diffserv QoS mechanism in IP networks.	
Physical Demarcation	A mutually-defined boundary dividing one area of responsibility for managing tangible assets, such as computers, routing hardware, or transmission lines from another.	
Picocell	A type of small cell that is generally wireless carrier installed and activated and that generally may have a cell radius range of approximately 200 meters (or approximately 650 feet).	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
PIDF (Presence Information Data Format)	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.	
PIDF-LO (Presence Information Data Format – Location Object)	Provides a flexible and versatile means to represent location information in a SIP header using an XML schema.	
PIF (Protocol Interworking Function)	That functional component of a Legacy Network Gateway or Legacy PSAP Gateway that interworks legacy PSTN signaling such as ISUP or CAMA with SIP signaling.	
Pilot Number	A telephone customer's main account number, lead number, main listed number, or billing account.	
PIO (Public Information Office)	The person(s) responsible for communications or spokespersons of organizations.	
PKI (Public Key Infrastructure)	A set of hardware, software, people, policies, and procedures needed to create, manage, distribute, use, store, and revoke digital certificates and manage public-key encryption.	
POI (Point of Interconnection)	A Physical Demarcation between an originating carrier network and an NG9-1-1 network.	
Point-in-Polygon selection	The GIS process of identifying spatial coincidence between points and polygons by overlaying a point onto a polygon to determine if the point is contained within the polygon.	
Policy Editor	A tool to edit policy in a user-friendly way.	
Policy Store	A functional element in the ESInet that stores policy documents/rules.	
POS (Packet Over SONET)	A communications protocol for transmitting packets in the form of the Point to Point Protocol over SDH or SONET using lasers or light emitting diodes over optical fiber at high line rates.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
Position Source	A parameter in the E2 protocol standard that actually indicates the *method* used for determining the latitude and longitude values, but that is also frequently used as an indication of wireless Phase 1 or Phase 2 in the ALI response to the PSAP.	
Postal Address	Address recognized and used by the United States Postal Service (USPS) for delivery of mail. A postal address is frequently not a valid address for 9-1-1 purposes.	
POTS (Plain Old Telephone Service)	Voice-grade telephone service employing analog signal transmission over twisted pair copper wire.	
PPP (Point-to-Point Protocol)	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.	
PPPoE (Point-to-Point Protocol over Ethernet)	A specific binding that allows PPP to be used for Ethernet networks links. PPPoE is used for DSL networks.	
PRACK	A SIP message used to reliably acknowledge receipt of an otherwise unreliable message transmission.	

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PRC (Process Review Committee)	An independent body that advises the NENA Executive Board that all operational procedures have been followed during the document approval process. The PRC consists of balanced representation from at least three interest categories: users, producers and general interest. Ref: NENA-ADM-001.5-2019, NENA Development Group Organizational Structure and Operational Procedures	C
Prelingual Deafness	The loss of hearing before the development of language skills.	
Pre-programmed message	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.	
Presence	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. Also known as: presence information	
PRF (Policy Routing Function)	That functional component of an Emergency Services Routing Proxy that determines the next hop in the SIP signaling path using a policy.	
PRI (Primary Rate Interface)	A bundle of ISDN circuits with 23 B channels at 64 Kbps and one D channel equivalent to one T1 link.	

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PRI (Primary Rate ISDN)	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.	
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.	
Property	As it relates to GIS, a representation of land by either a parcel, group of parcels or site footprint.	
Proxy	An entity in a call path that is an intermediary, and not an endpoint. Most message contents are copies (proxied) from one side of the proxy to the other, but the proxy may modify some elements, make a routing decision, or reject the call.	
Proxy Operator	Operates proxy server(s).	

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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) It can be a policy/routing element in other protocols.	
PRR (Policy Routing Rules)	Criteria which define how calls are diverted when a target PSAP is unable to take calls.	
PS9-1-1 (Private Switch 9-1-1)	A private telephone system which includes network, switching and database elements capable of providing ANI (ELIN) and ALI (ERL). A PS9-1-1 is designed for 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.	
PSA (Public Service Announcement)	Messages disseminated by the media without charge, with the objective of raising awareness, changing public attitudes and behavior towards a social issue.	
PSALI (Private Switch ALI)	A service option which provides Enhanced 9-1-1 features for telephone stations behind private switches. E.g. PBXs.	

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PSAP (Public Safety Answering Point)	An entity responsible for receiving 9-1-1 calls and processing those calls according to a specific operational policy. Variations: • Primary PSAP: A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. • Secondary PSAP: A PSAP to which 9-1-1 calls are transferred from a Primary PSAP. • Alternate PSAP: A PSAP designated to receive calls when the primary PSAP is unable to do so. • Consolidated PSAP: A facility where multiple Public Safety Agencies choose to operate as a single 9-1-1 entity. • Legacy PSAP: A PSAP that cannot process calls received via i3-defined call interfaces (IP-based calls) and still requires the use of CAMA or ISDN trunk technology for delivery of 9-1-1 emergency calls. • Serving PSAP: The PSAP to which a call would normally be routed. • NG9-1-1 PSAP: This term is used to denote a PSAP capable of processing calls and accessing data services as defined in NENA's i3 specification, NENA NENA-STA-010, and referred to therein as an "i3 PSAP".	
PSP (Provisioning Service provider)	The component in an ESInet functional element that implements the provider side of a SPML interface used for provisioning.	
PSTN (Public Switched Telephone Network)	The network of equipment, lines, and controls assembled to establish communication paths between calling and called parties in North America.	

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PTSC (Packet Technologies and Services Committee)	An ATIS standards committee that develops standards related to services, architectures, signaling, network interfaces, next generation carrier interconnect, cybersecurity, and government emergency telecommunications service within next generation networks. www.atis.org/PTSC	
PVC (Permanent Virtual Circuit)	A connection that is permanently established between two or more nodes in frame relay and asynchronous transfer mode (ATM) based networks. It enables the creation of a logical connection on top of a physical connection between nodes that communicate frequently or continuously https://www.techopedia.com/definition/8841/permanent-virtual-circuit-pvc	
QA/QC (Quality Assurance / Quality Control)	QA is the maintenance of data at a required level of quality through each step or process of preparation. QC is the system of maintaining standards during the development of data.	
QoS (Quality of Service)	As related to data transmission a measurement of latency, packet loss and jitter.	
Qualified Communication Assistant	An individual who must have competent skills in typing, grammar, spelling, interpretation of typewritten ASL, and familiarity with hearing and speech disability cultures, languages and etiquette. Communication Assistants (CAs) must possess clear and articulate voice communications. [FCC 47 C.F.R. § 64.604 (a)(1)(ii)]	
Qualified Interpreter	An individual who interprets effectively, accurately, and impartially, both receptively and expressively, between American Sign Language and spoken English. [FCC 47 C.F.R. § 64.604 (a)(1)(iv)]	
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.	

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RACES (Radio Amateur Civil Emergency Service)	A protocol created by the Federal Emergency Management Agency (FEMA) and the Federal Communications Commission (FCC Part 97, Section 407). Many government agencies across the country train their Auxiliary Communications Service (ACS) volunteers using the RACES protocol. The volunteers serve their respective jurisdictions pursuant to guidelines and mandates established by local emergency management officials.	
RADIUS (Remote Authentication Dial-In User Service)	A networking protocol that has attributes for conveying access network ownership and location information based on a civic and geospatial location format.	
RANP (Regional Access Network Provider)	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.	
Rate Center	A geographically specified area used for determining mileage and/or usage dependent rates in the Public Switched Telephone Network.	
RCL (Road Centerline)	A GIS feature that represents a centerline of a roadway. Each RCL segment has a beginning point, end point and consequently a direction of flow from beginning to end. A RCL typically has street number range information (High and Low) attributed to each segment in order to facilitate geocoding.	
RDF (Routing Determination Function)	The IMS-associated functional entity, which may be integrated in a Location Server (e.g. GMLC) or in an LRF and provides the proper outgoing address to the E-CSCF for routing the emergency request towards a PSAP. It can interact with a location functional entity (e.g. GMLC) to manage ESQK allocation and management and deliver location information to the PSAP.	
RDO (Root Discovery Operator)	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.	

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RDS (Responder Data Services)	A Functional Element that enables near real time wireless data transmissions between PSAPs and emergency responder devices. This includes transmitting dispatch information, creating new Incidents, updating active and closed Incidents. The Responder Data Services FE can support the transmission and receipt of media, or a reference (i.e. URL) to that media. Ref: Next Generation 9-1-1 Public Safety Answering Point Requirements NENA-REQ-001.1.2-2018	A
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: • Instant Playback Recorder • Call Check Recorder • Instant Recall Recorder Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	
Recipient Company	The new Service Provider responsible for the end user's telephone service and E9-1-1 data after the migration of the telephone number from a Donor Service Provider.	
Redirect Operator	Operates redirect server(s).	

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REF (NENA Reference Publication)	A NENA Reference Publication may contain any of the following examples that do not fit into a typical Standard, Information or Requirements document: • Public Education • PSAP Training • White Paper • Checklist • Web site material NENA Reference publications may be subject to different approval processes, and may require expedited approval under DSC control. The NENA REF Template may be downloaded from the Administrative Procedures & Templates Documents Page on NENA Workspace.	
REFER	A SIP method that is used as part of a transfer operation to refer a call to another endpoint.	
REFER/Replaces	Use of the SIP REFER method together with a Replaces header as part of a transfer operation to indicate that a new leg is to be created that replaces an existing call leg.	
Referred	Date and time stamp when the Database Management System Provider's Data Rep determines it is necessary to forward the request to another entity.	
REGISTER	A SIP method that is used to communicate the availability and address of an endpoint to the proxy server that directs incoming calls.	
Registry	A single place for keeping valid data values associated with a specific XML data element.	
reINVITE	A SIP INVITE transaction within an established session used to change the parameters of a call or refresh a session. See INVITE.	
REL (Release) message	An ISUP message sent in either direction to release the circuit.	

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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.	
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.	
REQ (NENA Requirements Document)	NENA Requirements (REQ) documents are published as an information source primarily for use by *NENA Committees* and working groups as guides for their development of NENA Standards. The contents of NENA Requirements documents are derived from a combination of the expressed needs of public safety agencies and the capabilities of the vendors of equipment and services. Requirements documents are not intended for use in development or procurement processes because their content does not include standard methods, processes, or specifications needed to support interoperability among the various 9-1-1 system elements. The NENA REQ Template may be downloaded from the Administrative Procedures & Templates Documents Page on NENA Workspace.	

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REQ (NENA Requirements Document)	NENA Requirements (REQ) documents are published as an information source primarily for use by NENA Committees and working groups as guides for their development of NENA Standards. The contents of NENA Requirements documents are derived from a combination of the expressed needs of public safety agencies and the capabilities of the vendors of equipment and services. Requirements documents are not intended for use in development or procurement processes because their content does not include standard methods, processes, or specifications needed to support interoperability among the various 9-1-1 system elements. The NENA REQ Template may be downloaded from the Administrative Procedures & Templates Documents Page on NENA Workspace.	
RequestURI	That part of a SIP message that indicates where the call is being routed towards. SIP Proxy servers commonly change the Request ID ("retargeting") to route a call towards the intended recipient.	
Re-Ring	See Emergency Ring Back	
Resource Priority	A header used on SIP calls to indicate priority that proxy servers give to specific calls. The Resource Priority header does not indicate that a call is an emergency call (see RequestURI).	
Response Agency	The public safety agency having legal or consensual obligation to respond to a call for service.	
REST (Representational State Transfer)	An interface that transmits domain-specific data over HTTP without an additional messaging layer such as SOAP or session tracking via HTTP cookies.	
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.	
Reverse Geocoding	Conversion of geographic coordinates to find a description of the location, most typically a civic address or place name.	

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RF Fingerprinting (Radio Frequency Fingerprinting)	A process that identifies the device or signaler from which a radio transmission originated by looking at the properties of its transmission, including specific radio frequencies. Each signal originator has its own specific "fingerprint" based on the location and configuration of its transmitted signals. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
RFC (Request for Comment)	A method by which standard setting bodies receive input from interested parties outside of the working group.	
Ringback Tone	A tone returned to the caller to indicate that a call is being processed.	
RLC (Release Complete)	An ISUP message sent to acknowledge the release (REL) message indicating that the circuit is idle afterward and can be used again.	
RMS (Records Management System)	The management of records for an organization throughout the records-life cycle. The activities in this management include the systematic and efficient control of the creation, maintenance, and destruction of the records along with the business t55ransactions associated with them. Considered a key component of operational efficiency, record management adds more value to organization's information assets. https://www.techopedia.com/definition/30667/records-management-system-rms	
RNA (Routing Number Authority)	An authority responsible for distributing ranges of numbers to network operators for the purposes of call routing and query steering.	
Roaming	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.	

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ROHC (Robust Header Compression)	A standardized method to compress the IP, UDP, UDP-Lite, RTP, and TCP headers of Internet packets.	
Route Diversity	See Diverse Routing	
Router	An interface device between two networks that selects the best route to complete the call even if there are several networks between the originating network and the destination 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 ESN (Emergency Service Number)	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)	
RSS (Really Simple Syndication)	A method of using standard web feed formats to publish information using a standard XML file format.	
RSU (Remote Switch Units)	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.	
RSVP (Resource Reservation Protocol)	Protocol that supports the reservation of resources across an IP network.	

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RTCP (Real-time Transport Control Protocol)	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. 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.	
RTP (Real Time Protocol)	An IP protocol used to transport media (voice, video, text) which has a real time constraint.	
RTSP (Real Time Streaming Protocol)	A network control protocol designed for use in entertainment and communications systems to control streaming media servers.	
RTT (Real Time Text)	Text transmission that is character at a time, as in TTY.	
SAML (Security Assertion Markup Language)	An XML-based, open-standard data format for exchanging authentication and authorization data between an identity provider and another party.	
SAP (Service Activation Parameter)	A parameter included in an SS7 call control message to invoke an action at another node or report the result of such an action.	
SBC (Session Border Controller)	A commonly available functional element that provides security, NAT traversal, protocol repair and other functions to VoIP signaling such as SIP. A component of a Border Control Function.	

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SBP (Standards & Best Practices Conference)	A working conference, the SBP is designed to help 9-1-1 professionals improve their overall 9-1-1 center operations, management and technology. NENA's Development Committees work year-long on the development of recommended Information, Requirements and Standards Documents, with the interactive SBP providing a special opportunity for attendees to evaluate pressing issues and emerging trends, as well as devote time for face-to-face meetings. http://www.nena.org/sbp	
SBP (Standards & Best Practices) Conference	NENA's 9-1-1 Standards and Best Practices Conference is an opportunity to take an active role in improving a PSAP's performance and develop the standards necessary to address the current and future needs of NG9-1-1 and overall 9-1-1 service.	
SBS (Straight Binary Seconds)	A binary number that appears in the IRIG time code which represents the total number of seconds since midnight.	
SCCP (Signaling Connection Control Part)	The protocol used at the transport layer for TCAP-based services such as freephone (toll free services), 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.	
Scheme	The part of a URI that indicates the protocol. For example, the scheme in the URI sip:john@example.com is "sip."	
SCP (Service Control Point)	A standard component of the SS7 and Intelligent Network (IN) telephone systems which is used to control the service.	
S-CSCF (Serving-CSCF)	The entity in the IMS core network that handles the session states.	

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SCTP (Stream Control Transmission Protocol)	Defined by IETF RFC4960 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 RFC4960 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. In addition to the services specified in IETF RFC4960, 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).	
SDO (Standards Development Organization)	An entity whose primary activities are developing, coordinating, promulgating, revising, amending, reissuing, interpreting, or otherwise maintaining standards that address the interests of a wide base of users outside the standards development organization.	
SDP (Session Description Protocol)	A standard syntax contained in a signaling message to negotiate a real time media session. See RFC4566.	
SDSL (Symmetrical Digital Subscriber Line)	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.	
Security Posture	An event that represents a downstream entity's current security state (normal, under attack, …).	
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.	

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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 Boundary	A polygon in a GIS system, SIF, ECRF or other ESInet element that indicates the area a particular agency or element serves.	
Service Composition	Used to bring together multiple services to satisfy more complex or higher-level needs.	
Service Mapping	The element of a LoST, calculated by an ECRF to indicate the PSAP or destination a call should be routed or transferred to.	
Service Order	Local Exchange Carrier document used for additions, changes or removals of telephone service.	
Service Provider	An entity providing one or more of the following 9-1-1 elements: network, CPE, or database service.	
Service Registry	A logically centralized directory of services. The registry provides a central place where service providers can publish new services and service consumers can discover those services.	
Service Request	Any request for emergency assistance.	
Service Type	A broad definition to describe different originating networks types. Examples are wireless, wire line, cable, IP, etc. Calls can be classified by their service type	
Service URN (Uniform Resource Name)	A URN with "service" as the first component supplied as an input in a LoST request to an ECRF to indicate which service boundaries to consider when determining a response. A Request URI with the service URN of "urn:service:sos" is used to mark a call as an emergency call. See RequestURI.	
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.	

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SFG (Simulated Facility Group)	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.	
SFTP (SSH File Transfer Protocol)	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.	
SHA (Secure Hash Algorithm)	One of a number of fixed-size, cryptographic algorithms promulgated by the National Institute of Standards and Technology used to provide integrity protection for messages, files and other data objects.	
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 user 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.	
SI (Spatial Interface)	A standardized data replication interface used to publish GIS data to the functional elements that consume GIS data, such as the ECRF, LVF, Map Database Services, etc.	
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.	

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<table>
<tr><td>Single Point of Failure</td><td>A hardware or software component or sub-system which experiences a failure causing more than 50% of the total system to fail.</td><td></td></tr>
<tr><td>SIO (Service Information Octet)</td><td>An eight-bit data field that is present in an SS7 message signal unit and is comprised of the service indicator and the sub-service field. It is used to determine the user part to which an incoming message should be delivered.</td><td></td></tr>
<tr><td>SIP (Session Initiation Protocol)</td><td>A protocol specified by the IETF (RFC3261) that defines a method for establishing multimedia sessions over the Internet. Used as the call signaling protocol in VoIP, NENA i2 and NENA i3.

SIP Transactions
<table>
<tr><td>Transaction</td><td>Definition</td></tr>
<tr><td>BYE</td><td>A SIP transaction used to terminate a session.</td></tr>
<tr><td>CANCEL</td><td>A SIP transaction which is used to cancel an INVITE transaction which has not yet completed.</td></tr>
<tr><td>INFO</td><td>A SIP transaction used to pass information from the caller to the called party.</td></tr>
<tr><td>INVITE</td><td>A SIP transaction used to initiate a session (See reINVITE).</td></tr>
<tr><td>reINVITE</td><td>A SIP INVITE transaction within an established session used to change the parameters of a call or refresh a session. See INVITE.</td></tr>
</table></td><td>C</td></tr>
</table>

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SLA (Service Level Agreement)	A contract between a service provider (either internal or external) and the end user that defines the level of service expected from the service provider. SLAs are output-based in that their purpose is specifically to define what the customer will receive.	
Small Cells	These are wireless carrier installed and activated cells that generally have a "cell" radius range of 500 meters or less. Because individual small cells cover small areas, however, it is necessary to deploy a number of such cells to achieve the seamless coverage that would be provided by a single macrocell. They are "small" compared to a wireless macrocell which macrocell may have a radius range of at least one kilometer. Small cells are low-powered wireless base stations that function like cells in a mobile wireless network and are intended to cover targeted indoor or localized outdoor areas ranging in size from homes and offices to stadiums, shopping malls, hospitals, and metropolitan outdoor spaces. Typically, they are used by wireless service providers to provide wireless connectivity to their subscribers in areas that present capacity and coverage challenges to traditional wide-area macrocell networks. Small cells can also be used to help fill in coverage gaps created by buildings, tower siting difficulties, and/or challenging terrain. While the industry has not always been consistent in the terms it uses for different types of small cell technology, generally speaking, femtocells, picocells, metrocells, and microcells refer to types of small cell technologies with coverage areas of increasing size.	
SMLC (Serving Mobile Location Center)	The node responsible for managing the overall co-ordination and scheduling of resources required to perform positioning of a mobile, and calculating the final location estimate and accuracy. http://www.tech-invite.com/gnef/tinv-glos-nef-s.html#smlc	

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SMS (Short Message Service)	A service typically provided by mobile carriers that sends short (160 characters or fewer) messages to an endpoint. SMS is often fast, but is not real time.	
SMTP (Simple Mail Transfer Protocol)	A protocol for sending e-mail messages.	
SNA (System Network Architecture)	IBM's standard network architecture describing logical structure, formats, protocols and operational sequences for transmitting information between software and hardware devices.	
SNMP (Simple Network Management Protocol)	A protocol defined by the IETF used for managing devices on an IP network.	
SNTP (Simple Network Time Protocol)	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.	
SOA (Service Oriented Architecture)	A model in computer software design in which application components provide a repeatable business activity to other components using a communications protocol, typically over a network.	
SOAP (Simple Object Access Protocol)	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.	
Sockets	A method for communication between two applications in a network. The socket is defined as "the endpoint in a connection".	
SOHO (Small Office/Home Office)	Describes a small office or home office with few occupants, often just one.	
SOI (Service Order Input)	A file of completed service order updates that is sent to the DBMSP by all SP's.	
SONET (Synchronous Optical NETwork)	High speed digital transport over fiber optic networks using synchronous protocol.	
SOP (Standard Operating Procedure)	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".	

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SOS URN	A service URN starting with "urn:service:sos" which is used to mark calls as emergency calls as they traverse an IP network and to specify the desired emergency service in an ECRF request. See Service Uniform Resource Name.	
Source Database	The database maintained by each Service Provider which provides customer telephone number and location information for the initial load and ongoing updates to the ALI database held by the Database Management System Provider.	
Spatial Data	Information stored as coordinates and topology that identifies the geographic location of features and boundaries on Earth. Also known as: • Geospatial data • Geographic information. Ref: NENA-STA-006, NENA Standard for NG9-1-1 GIS Data Model	A
Speech Disability	Includes communications disorders, such as stuttering, impaired articulation, language or voice impairment, which adversely affect a person's ability to articulate speech clearly.	
SPID (Service Provider Identifier)	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 databases. Formerly known as OCN (Operating Company Number).	
SPVC (Soft Permanent Virtual Circuit)	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).	

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SR (Selective Router)	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: • Enhanced 9-1-1 Control Office • 9-1-1 Tandem Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	
SR (Selective Router) Operators	Operates the Selective Router(s) corresponding to specific local exchange areas.	
Selective Routing	The process by which 9-1-1 calls/messages are routed to the appropriate PSAP or other designated destination, based on the caller's location information, and may also be impacted by other factors, such as time of day, call type, etc. Location may be provided in the form of an MSAG-valid civic address or in the form of geo coordinates (longitude and latitude). Location may be conveyed to the system that performs the selective routing function in the form of ANI or pseudo-ANI associated with a pre-loaded ALI database record (in Legacy 9-1-1 systems), or in real time in the form of a Presence Information Data Format – Location Object (PIDF-LO) (in NG9-1-1 systems) or whatever forms are developed as 9-1-1 continues to evolve. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	
SRC (Session Recording Client)	The Logging Service acts as a Session Recording Server (SRS), and accepts media and metadata from a Session Recording Client (SRC).	

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SRDB (Selective Routing Database)	The routing table that contains telephone number to ESN relationships which determines the routing of 9-1-1 calls.	
SRTP (Secure Real Time Protocol)	An IP protocol used to securely transport media (voice, video, text) which have a real time constraint.	
SRV (Service)	A specification of data in the Domain Name System defining the location, i.e. the hostname and port number, of servers for specified services.	
SS7 (Signaling System 7)	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: CCS7 (Common Channel Signaling 7)	
SSH (Secure Shell)	A protocol for secure remote login and other secure network services over an insecure network.	
SSL (Secure Socket Layer)	A computer networking protocol that manages server authentication, client authentication and encrypted communication between servers and clients.	
SSO (Single Sign-On)	A session/user authentication process that permits a user to enter one name and password in order to access multiple applications.	
ST (Start)	An MF signaling tone (digit).	

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STA (NENA Standards Document)	NENA Standard (STA) documents are published for the use of the public safety community. A NENA Standard is intended to describe methods, processes, and specifications that, if implemented as specified, should result in successful operation of the 9-1-1 emergency call and incident processing system. Most importantly, independent implementations that conform to NENA STA documents should interoperate with each other, providing seamless 9-1-1 emergency call and incident processing within a jurisdiction using multiple vendors and between jurisdictions that use different vendors. NENA STA documents may be used by system developers, service providers, public safety agencies, regulatory authorities and others for the purposes of development, procurement, and management of 9-1-1 emergency call and incident processing products and services. Some NENA Standard (STA) documents may be published as American National Standards (ANS). The STA document may include sections on the NENA Registry System and XML Schemas Considerations, if applicable. The NENA STA Template may be downloaded from the Administrative Procedures & Templates Documents Page on NENA Workspace.	
Stand Alone Database	A database system created, maintained and located at a 9-1-1 Jurisdiction.	
Start Bit	In asynchronous transmission, the first element in each character that prepares the receiving device to recognize the incoming information.	
Station Identification	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.	
Stop Bit	In asynchronous transmission, the last transmitted element in each character, which permits the receiver to come to an idle condition before accepting another character.	

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STP (Start Prime)	An MF signaling tone (digit)	
Stranded Unlock Record	A record in the E9-1-1 database 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.	
Subaddress	A component of an address that provides differentiation between features having a common street name and address number. For example: apartment, suite or lot number.	
SubjectAltName	A field in an X.509 digital certificate which typically contains identifying information for the entity issued the certificate. In an ESInet, SubjectAltName contains an agent or agency ID.	
SUBSCRIBE / NOTIFY	The two actions in an asynchronous event notification system. The subscription is the request to receive notifications of the events. The Notify is the notification of the event itself. Also refers to the SIP methods used for this purpose.	
Substantive Change	A change that directly and materially affects the use of the standard. Examples of substantive changes are: • "shall" to "should" or "should" to "shall"; • Addition, deletion or revision of requirements or specifications, regardless of the number of changes; • Addition of mandatory compliance with referenced standards.	
Successful ALI Queries	The sum of all ALI Queries less No Record Founds, Misroutes, MSAG Discrepancies, and ALI Discrepancies.	

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SVC (Switched Virtual Circuit)	A network connection initiated by signaling at a User Network Interface, where the originator specifies the destination address.	
System	The hardware, software and databases necessary for NG9-1-1.	
System Provider	See Service Provider	
T1	A 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. 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. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	C
TA (Technical Assistance)	Document issued by the U.S. Department of Justice (USDOJ) to assist agencies in achieving compliance with regulations.	
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 CO (Central Office)	See Enhanced 9-1-1 Control Office	

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TAR (Taxing Area Rate) Code	An abbreviation in a legacy service order system that may identify a taxing area. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
Target	The IP endpoint to which location is attributed.	
TCAP (Transaction Capabilities Application Part)	An application protocol used to connect to an external database, perform a query of the database 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.	
TCP (Transmission Control Protocol)	A communications protocol linking different computer platforms across networks. TCP/IP functions at the 3rd and 4th levels of the Open System Interconnection (OSI) model.	
TCP/IP (Transmission Control Protocol/Internet Protocol)	A communications protocol linking different computer platforms across networks. TCP/IP functions at the 3rd and 4th levels of the Open Systems Interconnection model.	
TCU (Telematics Control Unit)	A telematics equipped vehicle's control unit responsible for contacting a telematics call processing center via a cellular call.	
TDD (Time Division Duplex Mode)	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.	
TDD/TTY Detector	Any device that automatically detects TDD/TTY tones and audibly and/or visually notifies the call taker.	
TDM (Time Division Multiplexing)	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.	

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TDMA (Time Division Multiple Access)	A digital radio interface utilized by some North American PCS carriers.	
TDOA (Time Difference of Arrival)	A terrestrial Location Determination Technology (LDT) that computes a transmitter's location based upon the times a signal is received at multiple receivers.	
Team Adam	NCMEC on site emergency response team for abduction cases.	
Telcordia	A telecommunications consulting body which produced Generic Requirements (GR) documents referenced in NENA documents. Telcordia was acquired by Ericsson in 2012.	
Telecommunicator	An emergency response coordination professional trained to receive, assess, and prioritize emergency requests for assistance, including, but not limited to: • Determining the location of the emergency being reported • Determining the appropriate law enforcement, fire, emergency medical, or combination of those emergency services to respond to the emergency • Coordinating the implementation of that emergency response to the location of the emergency • Processing requests for assistance from emergency responders. Also known as: • Call Taker • Dispatcher	C
Telematics	The mechanisms that support the acquisition of telemetry data and action based upon it.	
Temporary Residence	The use of MLTS to provide temporary occupancy in a facility such as dormitories, hotel/motel, health care and nursing homes, or other similar facilities.	

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TERT (Telecommunicator Emergency Response Taskforce)	A group of trained telecommunications operations and support personnel able to respond to and work with another agency to receive, process, dispatch and monitor calls for assistance.	
Text Telephone	The original device with handset couplers and a keyboard similar to a typewriter; used for information interchange through transmission of texts using Baudot or ASCII codes via PSTN and Internet. (per EIA PN-1663)	
Therapeutic Lifestyle Changes	Established regimens assuring recommended practice of exercise, nutrition, sleep, balanced personal investment in work, recreation/personal and family life experience, and spirituality[1].	
Third party Emergency Medical Dispatch Service Provider	Entity other than a PSAP, (2nd PSAP or private/commercial center) who provides Emergency Medical Dispatch services to callers/clients.	
TIA (Telecommunications Industry Association)	A lobbying and trade association, the result of the merger of the USTA (United States Telephone Association) and the EIA (Electronic Industries Association).	
TIA-232-F	A Telecommunications Industry Association standard for serial communication transmission of data previously referred to as "RS-232". It formally defines the signals connecting between a DTE (data terminal equipment) such as a computer terminal, and a DCE (data circuit-terminating equipment or data communication equipment), such as a modem. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	A
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.	

[1] Walsh, R. Lifestyle and Mental Health. American Psychologist, October 2011, pp. 579-592.

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Time Server	A Functional Element that provides NTP (Network Time Protocol) time services to other Functional Elements.	
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.	
TLD (Top-level Domain)	The last segment of the domain name. The TLD is the letters immediately following the final dot in an Internet address.	
TLS (Transport Layer Security)	An Internet protocol that operates between the IP layer and TCP and provides hop-by-hop authentication, integrity protection and privacy using a negotiated cipher-suite.	
TOA (Time of Arrival)	The travel time of a radio signal from a single transmitter to a remote single receiver. Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A
Token	A physical device that displays a multi-digit number used as part of an authentication system ("something you have"). Also, a set of bits that represent some data, permission or state which is meaningful to the recipient, but not necessarily the sender.	
Token Ring	Local area network architecture originally developed by IBM. Later standardized by IEEE 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.	
TOS (Terms of Service)	Basis on which users agree to use a forum or other web-based place for creating or sharing content. Users should check before agreeing what rights the site owners may claim over their content.	

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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).	
Transcoding	Translating a media stream from one codec to another. For example, translating Baudot tones detected in a G.711 encoded audio stream to T.140 real time text.	
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.	
Transport Facility	An analog or digital circuit that connects switches and/or networks together. In this document, this refers to a digital trunk that carries calls between either the carrier network and the SR, or the SR and the PSAP.	
TRS (Telecommunications Relay Service)	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.	
Trunk	Typically, a communication path between central office switches, or between the 9-1-1 Control Office and the PSAP.	
Trunk Alternate Route	The routing condition that occurs when all trunks from the end office to SR are out of service. The scenario represents an end office to SR trunk failure condition versus an all trunks busy condition.	
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.	

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TSP (Telecommunications Service Provider)	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.	
TSP (Telematics Service Provider)	Companies which provide telematics (communications and data) services.	
TSP (Telephone Service Priority)	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.	
TTL (Transistor to Transistor Logic)	An internal transfer standard for electronics devices in which a 1 state is +5 volts and a zero state is 0 volts.	
TTY (Teletypewriter)	A device or application used to send or receive character by character communication using Baudot signaling. Also known as: TDD (Telecommunications Device for the Deaf) Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards http://www.gallaudet.edu/dpn-home/tty-relays-and-closed-captions.html	C

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TTY-PASS (TTY Performance Assessment and Scoring System	This system was established in March of 2005 through a partnership with TelecomXchange International (TXI) and the National Emergency Number Association (NENA). TTY-PASS was developed in support of the Americans with Disabilities Act (ADA) requiring equal access to TTY users. The ADA states very clearly that every call-taking position within a PSAP must have its own TTY or TTY-compatible equipment. PSAPs must have systems that enable call takers to handle TTY calls as properly, promptly, and reliably as voice calls. Every call-taking position needs its own TTY equipment. Further, the ADA requires that TTY equipment must be maintained and tested at least as often as voice telephone equipment, to ensure that the equipment is operating properly.	
TURN (Traversal Using Relays Around NAT)	A mechanism for establishing RTP connections through some kinds of NAT devices that won't allow two endpoints to connect directly. TURN uses a relay outside the NAT boundaries.	
TVSS (Transient Voltage Surge Suppressor)	Devices designed to protect critical PSAP equipment from transients induced on powering and data/signal/telecommunications conductors. TVSS can also refer to "Transient Voltage Surge Suppression" Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	C
TVW (Testing Validation Worksheet)	This worksheet and the accompanying completion rules ensure that PSAPs or the 9-1-1 Governing Authority have all of the data elements they need in order to make informed call routing decisions and to update their CAD and mapping applications.	
TYS (Type of Service)	A designation in E9-1-1 that specifies if caller's service is published or non-published and if it is a foreign exchange outside the E9-1-1 serving area.	

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UA (User Agent)	As defined for SIP in IETF RFC 3261, 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.	
UAC (User Agent Client)	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."	
UAS (User Agent Server)	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."	
UCADFR (Unified Computer Aided Dispatch Functional Requirements)	A detailed, comprehensive, and unified set of functional requirements for Computer Aided Dispatch (CAD), developed by the IJIS Institute and the Association of Public Safety Communications Officials International (APCO).	
UDDI (Universal Description, Discovery and Integration)	An XML-based registry for businesses worldwide, which enables businesses to list themselves and their services on the Internet.	

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UDP (User Datagram Protocol)	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, and compared to TCP, is stateless and more efficient at handling lots of short messages from many clients.	
UE (User Equipment)	A device allowing a user access to network services.	
Uncertainty	(See Confidence/Uncertainty)	
Unlock	The action required by a 9-1-1 Database 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.	
UPDATE	A SIP method used to update parameters in a call not yet established.	
URI (Uniform Resource Identifier)	An identifier consisting of a sequence of characters matching the syntax rule that is named <URI> in RFC 3986. It enables uniform identification of resources via a set of naming schemes. A URI can be further classified as a locator, a name, or both. The term "Uniform Resource Locator" (URL) refers to the subset of URIs that, in addition to identifying a resource, provides a means of locating the resource by describing its primary access mechanism (e.g., its network "location"). The term "Uniform Resource Name" (URN) has been used historically to refer to both URIs under the "urn" scheme [RFC2141], which are required to remain globally unique and persistent even when the resource ceases to exist or becomes unavailable, and to any other URI with the properties of a name. An example of a URI that is neither a URL nor a URN is **sip:psap@example.com**. Ref: NENA-STA-006, NENA Standard for NG9-1-1 GIS Data Model	

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URISA (Urban and Regional Information Systems Association)	A non-profit association of professionals using GIS and other information technologies to solve challenges in US state and local government agencies. http://www.urisa.org/	
URL (Uniform Resource Locator)	A type of URI, specifically used for describing and navigating to a resource (e.g., **http://www.nena.org**)	
URN (Uniform Resource Name)	A type of URI. Uniform Resource Names (URNs) are intended to serve as persistent, location-independent, resource identifiers and are designed to make it easy to map other namespaces (which share the properties of URNs) into URN-space. An example of a URN is **urn:service.sos**. RFC 2141	
UTC (Universal Coordinated Time)	The primary time standard in the world based on the time zone in Greenwich, England. Also known as: • Zulu Time • Greenwich Mean Time (GMT)	C
Valid XML instance document	The instance document satisfies the structural, content type and constraints established by its associated schema (document definition).	
VBR (Variable Bit Rate)	An encoding sampling rate that varies depending on dynamic range of sound source, typically used for mp3 recordings. Variations of VBR include non-real time and real-time.	
VCO (Voice Carry Over)	A technology which utilizes both voice and text or video communications, allowing a person with a hearing disability to speak to the other party and read their responses simultaneously as typed or signed by the communications assistant via a text or video-capable device. Ref: NENA-STA-027, E9-1-1 PSAP Equipment Standards	C

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VDB (Validation Database)	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.	
VDB (Validation Database) Operator	An operator that provides location information validation services to LIS operators and other users.	
V-E2 Interface (Voice over Internet Protocol E2 Interface)	VPC to ALI DB. The V-E2 interface uses the E2+ protocol as defined in NENA Standards 05-001, with modifications required for support of i2.	
VEDS (Vehicle Emergency Data Sets)	A uniform data set for the collection and transmission of Advanced Automatic Collision Notification (AACN) data by automotive Telematics Service Providers (TSPs). Ref: https://www.apcointl.org/resources/telematics/aacnveds/veds-scheme-a-supporting-documentation/	
VEP (VoIP Endpoint)	The endpoint IP Device that is used to originate an emergency call.	
VESA (Valid Emergency Services Authority)	This organization is the root source of all certificates used for NG9-1-1. 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 the VESA issues certificates directly to end users, it also has the responsibilities of a delegate credential authority in those cases.	

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VESA Certificate	This is the certification provided by the 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 situations 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.	
VFG (Virtual Facility Group)	One or more trunks terminated at the same two points and used internally within a switch. When referred to as E9-1-1VFG, it relates to the E9-1-1 Control Office switch.	
Video Interpreter	A "qualified interpreter" who signs and interprets between spoken English and visual communication. Ref: NENA Video Relay Service & IP Relay Service PSAP Interaction Information Document is NENA-INF-013.2-2015 (originally 52-502)	
Virtual PSAP	An operational model directly enabled through NG9-1-1 features and/or network hosted PSAP equipment in which telecommunicators are geographically dispersed, rather than working from the same physical location. Remote access to the PSAP applications by the dispersed telecommunicators requires the appropriate network connections, security, and work station equipment at the remote location. Unified communications applications supporting voice, data, instant messaging, and video communications between telecommunicators may be used to enable the telecommunicators to work cooperatively from diverse locations. The virtual work place may be a logical combination of physical PSAPs, or an alternate work environment such as a satellite facility, or any combination of the above. Workers are connected and interoperate via IP connectivity.	

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VLAN (Virtual LAN)	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.	
VLR (Visitor Location Register)	A database containing information about the subscribers roaming within a mobile switching center's (MSC) location area.	
VoIP (Voice over Internet Protocol)	Technology that permits delivery of voice calls and other real-time multimedia sessions over IP networks.	
VPC (VoIP Positioning Center)	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).	
VPI (Virtual Path Identifier)	Part of the addressing information used in an ATM frame that identifies a particular virtual path.	
VPN (Virtual Private Network)	A network implemented on top of another network, and private from it, providing transparent services between networks or devices and networks. VPNs often use some form of cryptographic security to provide this separation	
VRI (Video Remote Interpreting)	A video teleconferencing system that utilizes an off-site virtual Sign Language Interpreter to interpret between sign language users and non-sign language users physically in the same room through high-speed internet-based video conferencing equipment.	
VRS (Video Relay Service)	A telecommunications relay service that allows people with hearing or speech disabilities who use sign language to communicate with voice telephone users through video equipment. The video link allows the CA to view and interpret the party's signed conversation and verbally relay the conversation back and forth with a voice caller.	

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VSP (VoIP Service Provider)	A company that offers VoIP telecommunications services that may be used to generate a 9-1-1 call, and interconnects with the 9-1-1 network.	
WAN (Wide Area Network)	A wide area network (WAN) is a computer network that spans a relatively large geographical area and consists of two or more interconnected local area networks (LANs).	
WAP (Wireless Access Point)	In computer networking a networking hardware device that allows a Wi-Fi compliant device to connect to a wired network. The WAP usually connects to a router (via a wired network) as a standalone device, but it can also be an integral component of the router itself. A WAP is differentiated from a hotspot, which is the physical location where Wi-Fi access to a WLAN is available.	
WCM (Wireline Compatibility Mode)	Phase II 20-digit delivery of call back number and ESRK.	
Web service	A self-contained, self-describing, modular application that can be published, located, and invoked across the Web. Web services perform functions that can be anything from simple requests to complicated business processes.	
Well-formed XML instance document	The instance document satisfies XML syntax rules.	
WFS (Web Feature Service)	A web service that allows a client to retrieve and update geospatial data encoded in Geography Markup Language (GML).	
WG (Working Group)	A group of people formed to discuss and develop a response to a particular issue. The response may result in a Standard, an Information Document, Technical Requirements Document or Liaison.	
WGS 84 (World Geodetic System 1984)	The reference coordinate system used by the Global Positioning Systems and in cartography and navigation.	

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WHP (Wireless Home Phone)	A residential or business Digital Enhanced Cordless Telephone (DECT) phone adapter device that generally provides home phone calling through wireless Commercial Mobile Radio Service (CMRS) connected services; generally requires an AC power source; is generally not used in a mobile context (as is a wireless handset); and is designed for use at a fixed location. This device may support nomadic as well as static use cases. It is also technically possible for this device to be used in a mobile manner where a mobile AC power source is also available, such as in a motor home.	
Wi-Fi ®	A wireless networking technology that uses radio waves to provide wireless high-speed internet and network connections. Wi-Fi is a registered trademark phrase that means IEEE 802.11x.	
Wi-Fi Calling	A service offering being used by some wireless carriers, cable companies, other companies, and some enterprise customers that seek to deliver voice calls over Wi-Fi. In the context of 9-1-1 calling at least from major wireless carriers, there is a general first preference for the mobile handset to send 9-1-1 calls over the CMRS or VoLTE networks where available and Wi-Fi calling may only be used when such does not occur within a period of several seconds. Where the 9-1-1 calling is done via Wi-Fi calling, the connectivity from the Wi-Fi access point to the 9-1-1 system is comparable to connectivity from a wired broadband connection for VoIP to the 9-1-1 system.	
WiMAX (Worldwide Interoperability for Microwave Access)	A wireless industry coalition dedicated to the advancement of IEEE 802.16 standards for broadband wireless access (BWA) networks.	
Wink	In regard to E9-1-1 signaling, a temporary on-hook signal of between 200 and 300 milliseconds duration, used on analog circuits utilizing MF or DTMF signaling.	

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Wireless E9-1-1 Phase I	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. Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rulemaking (NPRM) 94-102.	
Wireless Local Loop	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 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.	
WNC (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.	
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 access.	
WPS (Wireless Priority Service)	A Federal program that authorizes cellular communications service providers to prioritize calls over wireless networks. https://www.fcc.gov/general/wireless-priority-service-wps	

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WSDL (Web Service Description Language)	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. An XML-based interface definition language that is used for describing the functionality offered by a web service.	
WSP (Wireless Service Provider)	Cellular, satellite or other radio-based telephony or data transport commercial entity.	
WSS (Web Services Security)	Includes several aspects to ensure security of web services: authentication credentials, authorization or access control, confidentiality/privacy and integrity by use of a digital signature.	
WTSC (Wireless Technologies and Systems Committee)	A committee within ATIS which wireless radio access, system, and network solutions related to wireless and/or mobile services and systems.	
X.509	An ITU-T standard for a public key infrastructure (PKI) and Privilege Management Infrastructure (PMI). In NG9-1-1, refers to the format of a certificate containing a public key.	

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XACML (eXtensible Access Control Markup Language)	A general-purpose access control policy language. This means that it provides a syntax (defined in XML) for managing access to resources. https://www.oasis-open.org/committees/download.php/2713/Brief_Introduction_to_XACML.html	
XML (eXtensible Markup Language)	An internet specification for web documents that enables tags to be used that provide functionality beyond that in Hyper Text Markup Language (HTML). In contrast to HTML, XML has the 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.	
XML (eXtensible Markup Language) instance document	An XML document that conforms to a given schema, as a specific instance of that schema.	
XML (eXtensible Markup Language) 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.	
XMPP (eXtensible Messaging and Presence Protocol)	A standardized protocol for exchanging instant messages, presence, files and other objects.	
XSD Profile	A profile of SPML-based provisioning describing the use of XML and an XSD as a data model.	
Z Coordinate	Elevation/Altitude indicated as height above the ellipsoid (plus or minus), measured in meters. (This is not intended to include floor level or uncompensated barometric pressure.) Ref: NENA-STA-015, NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping	A

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ZIP Code (Zone Improvement Plan Code)	A system of 5-digit codes that identifies the individual USPS Post Office or metropolitan area delivery station associated with an address, which may optionally be enhanced by four additional digits that identify a specific range of USPS delivery addresses.	

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3 MSAG Related Terms

Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
MSAG (Master Street Address Guide)	A database 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.	
MSAG (Master Street Address Guide) Standard	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)	
MSAG (Master Street Address Guide) Local Operational	An MSAG 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)	
MSAG (Master Street Address Guide) 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.	
MSAG (Master Street Address Guide) Delta	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.	
MSAG (Master Street Address Guide) Address	Address recognized by Public Safety for the dispatch of emergency first responders. It is an absolute and unique address in that variants for	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
	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. MSAG addresses are used to route 9-1-1 calls and for ALI display. 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.)	
MSAG (Master Street Address Guide) 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.	
MSAG (Master Street Address Guide) 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	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
	supports the access and retrieval of the MSAG data by authorized parties	
MSAG (Master Street Address Guide) 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).	
MSAG (Master Street Address Guide) Discrepancy	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.	
MSAG (Master Street Address Guide) Error	A hard error from DBMS service order processing or a manual update that failed to meet the MSAG specifications.	
MSAG (Master Street Address Guide) 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.	

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4 TTY Protocol

APCO/NENA ANS 3.105.1-2015, Minimum Training Standard for TDD/TTY Use in the Public Safety Communications Center

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.

Proper TTY protocol is critical to effective communications with persons who use TTYs to communicate. Call takers shall be trained to use proper protocol, agency policies shall mandate the use of proper protocols and call taker proficiency testing shall document whether the call taker demonstrated the proper use of TTY protocol. Proper TTY protocol includes the following:

Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
GA (Go Ahead)	Used to indicate that one person is through with their comments/questions and is waiting on a response from the other person. The term GA means "go ahead, it's your turn to talk."	
Q or QQ (Question)	Tone of voice is not transmitted on a TTY, so it is necessary to type the letters QQ or Q when asking a question. GA is also added to solicit a response from the other person to questions.	
GA SK (Go Ahead Stop Keying)	When getting ready to end the conversation, the appropriate protocol to use is to type GA SK, which literally means "go ahead and stop keying" which indicates that the person is ready to end the conversation. This is sometimes presented as GA to SK.	
SKSK (Stop Keying Stop Keying)	Used to indicate, "bye, I am hanging up now." This term officially ends a TTY conversation. Generally, a call taker will allow the TTY caller to conclude the conversation first. However, in extreme emergencies, a call taker may want to use SKSK for	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
	emphasis. If this is the case, the call taker shall NOT disconnect the TTY or turn it off but rather leave the line open in case the caller has something else to add. An example of a call taker using SKSK first would be after getting all pertinent information such as location from a caller who is reporting their house is on fire from within the structure. In order to stress the importance of the TTY user getting out of the house the call taker may elect to use SKSK first.	
XXXXX (Error Message)	Spelling errors are common in TTY conversations. Instead of wasting time hitting the backspace key to correct the mistake, several X's are used to indicate an error and then the word or phrase is typed correctly. If the error is not critical there is no need to waste time trying to correct it.	

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5 Interfaces for Interim VoIP E9-1-1 Architecture (i2)

NENA 08-001 08/11/2010, Refer to the standard for specific details and guidance.

Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
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.	
V2 Interface	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.	
V3 Interface	LIS to VPC (Optional). The V3 interface provides a means for the VPC to obtain the emergency caller's location.	
V4 Interface	Call Server/Routing Proxy to ESGW. The V4 interface is used to forward the call to the appropriate ESGW.	
V5 Interface	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.	
V6 Interface	Call Server to Routing Proxy. The V6 interface is defined as a SIP interface to a Routing Proxy.	
V7 Interface	Location Validation Interface. The V7 interface is used by the LIS provider to request validation of a given Civic Location as compared with the	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
	MSAG-based data stored in the VDB. A location validation request includes at least the civic location. The response includes an indication of whether or not the Civic Location is a valid address recognized by the MSAG, and may include error/diagnostic information to assist in resolving problems. The interface should be able to support individual location validation requests sent one at a time for validation processing. The V7 interface is a web server that is described by a WSDL (Web Service Description Language). More information can be found at https://www.nena.org/default.asp?page=XML_Schemas.	
V8 Interface	VPC to ERDB. The V8 interface supports queries from the VPC to the ERDB. The VPC sends location information for the emergency caller to the ERDB to obtain routing information (ESRN), and other information to help in selection of an appropriate ESQK for the call and to support the delivery of call/location information in response to ALI database requests. The V8 interface is a web server that is described by a WSDL (Web Service Description Language). More information can be found at https://www.nena.org/default.asp?page=XML_Schemas.	
V9 Interface	LIS/VPC to Root Discovery Operator. The V9 interface allows a VEP/LIS or	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
	VPC to discover the appropriate VDB/ERDB.	

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6 NENA Civic Location Data Elements (NENA-STA-004) 03/23/2014)

Note: Refer to the standard for specific details and guidance.

Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Country	The name of a country represented by its two-letter ISO 3166-1 English country alpha-2 code elements in capital letters. www.iso.org/iso/country_codes/iso_3166_code_lists/country_names_and_code_elements.htm	
State	The name of a state or state equivalent, represented by the two-letter abbreviation given in USPS Publication 28, Appendix B. A state is a primary governmental division of the United States. pe.usps.gov/cpim/ftp/pubs/Pub28/Pub28.pdf	
County	The name of county or county-equivalent where the address is located. A county (or its equivalent) is the primary legal division of a state or territory. Restricted to the names of counties and county equivalents. A complete list is maintained by the U.S. Census Bureau as National Standard Codes (2010 FIPS Codes for Counties and County Equivalent Entities), Federal Information Processing Series (FIPS), available at: www.census.gov/geo/reference/codes/cou.html	
Incorporated Municipality	The name of the incorporated municipality or other general-purpose local governmental unit (if any) where the address is located.	
Unincorporated Community	The name of an unincorporated community, either within an incorporated municipality or in an unincorporated portion of a county, or both, where the address is located.	
Neighborhood Community	The name of an unincorporated neighborhood, subdivision or area, either within an incorporated municipality or in an unincorporated portion of a county or both, where the address is located.	
Postal Community Name	A city name for the ZIP Code of an address, as given in the USPS City State file. https://ribbs.usps.gov/index.cfm?page=address_info_systems	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Postal Code	A system of 5-digit codes (commonly known as zip codes) that identifies the individual USPS Post Office or metropolitan area delivery station associated with an address, which may optionally be enhanced by four additional digits that identify a specific range of USPS delivery addresses.	
Street Name Pre Modifier	A word or phrase that: • precedes and modifies the Street Name element, but is separated from it by a Street Name Pre Type or a Street Name Pre Directional or both, or • is placed outside the Street Name element so that the Street Name element can be used in creating a sorted (alphabetical or alphanumeric) list of complete street names.	
Street Name Pre Directional	A word preceding the *Street Name* element that indicates the direction taken by the street from an arbitrary starting point or line, or the sector where it is located.	
Street Name Pre Type	A word or phrase that precedes the *Street Name* element and identifies a type of thoroughfare in a complete street name.	
Street Name Pre Type Separator	A preposition or prepositional phrase between the *Street Name Pre Type* and the *Street Name*. This element is defined in CLDXF as a US specific extension of PIDF-LO per RFC6848.	
Street Name	The element of the complete street name that identifies the particular street (as opposed to any street types, directionals, and modifiers).	
Street Name Post Type	A word or phrase that follows the *Street Name* element and identifies a type of thoroughfare in a complete street name.	
Street Name Post Directional	A word following the *Street Name* element that indicates the direction taken by the street from an arbitrary starting point or line, or the sector where it is located.	
Street Name Post Modifier	A word or phrase that follows and modifies the Street Name element.	

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Term or Abbreviation (Expansion)	*Definition / Description*	*Add (A), Change (C)*
Address Number Prefix	An extension of the *Address Number* that precedes it and further identifies a location along a thoroughfare or within a defined area.	
Address Number	The numeric identifier of a location along a thoroughfare or within a defined community.	
Address Number Suffix	An extension of the *Address Number* that follows it and further identifies a location along a thoroughfare or within a defined area.	
Milepost	A distance travelled along a route such as a road or highway, typically indicated by a milepost sign. There is typically a post or other marker indicating the distance in miles/kilometers from or to a given point.	
Landmark Name Part	The name or collection of names by which a prominent feature is publicly known. This element is defined in CLDXF as a US specific extension of PIDF-LO per RFC6848.	
Complete Landmark Name	The name by which a prominent feature is publicly known. The *Complete Landmark Name* for a CLDXF record is composed of the *Landmark Name Parts* in that record.	
Building	One among a group of buildings that have the same address number and complete street name.	
Additional Location Information	A part of a subaddress that is not a building, floor, unit, room, or seat.	
Floor	A floor, story, or level within a building.	
Unit	A group or suite of rooms within a building that are under common ownership or tenancy, typically having a common primary entrance.	
Room	A single room within a building.	
Seat	A place where a person might sit within a building.	
Place Type	The type of feature identified by the address adapted from "Location Types Registry" (IETF RFC 4589). www.iana.org/assignments/location-type-registry/location-type-registry.xml	

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EIDO& IDX Frequently Asked Questions (FAQ) 07/31/2019 NENA-REF-011.2-2019

NOTE: "EIDO" refers to a JSON - formatted Emergency Incident Data Object. The EIDO specification in development is based on the NENA/APCO-INF-005.1 EIDO Information Document and other NENA documents that refer to "EIDOs" which describe XML - formatted documents. The answers shown here are based on the point in time when they were provided, based on the then current applicable specifications. All answers are subject to change if the applicable specifications change. NENA will endeavor to keep this document in sync with any changes made in the applicable specifications that would cause these answers to be outdated. Those applicable specifications (Standards) are the normative source, and this document is informative.

Table of Contents

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.

EIDO FAQ #	Questions	Answers
1.	What is an EIDO?	"**EIDO**" is an abbreviation for **Emergency Incident Data Object**. Here's the official NENA Master Glossary definition: A JSON-based object that is used to share emergency incident information between and among authorized entities and systems. The EIDO represents the state of an incident as known by the sender at the time it was sent. Here are some other ways to describe an EIDO: The EIDO and its conveyance mechanisms replace the serial port data connection between CPE and CAD, as well as providing a standardized CAD to CAD interface. It standardizes incident status update mechanism, between responders and agencies, between agencies working multi-agency incidents, and also provides a standardized way to send incident data to EOCs, tow truck operators, utilities and even news organizations.
2.	Why do we need EIDOs?	We need a way for one system or agency that has information about an incident to send that information to another system or agency using a standard format. That way, both systems can understand the information, even if the systems are from different vendors or operated by different agencies. In NENA documentation, these systems are often also called functional elements (FE).

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
3.	Where are the EIDO specifications?	**There are several documents where the specifications and requirements relating to EIDOs are published or being developed:** • **The EIDO specifications are being developed** from the NENA/APCO-INF-005.1 EIDD Information Document. • **The requirements for PSAP functional elements for sending and receiving EIDOs** are included in the NENA/APCO NG9-1-1 PSAP Requirements Document where they were described as "EIDDs". • **EIDOs used for transferred calls and other aspects of EIDOs** are published in NENA-STA-010 Detailed Functional and Interface Standards for the NENA i3 Solution **NENA Working Groups are currently developing additional documentation on EIDOs:** • **EIDO Conveyance:** Conveyance of Emergency Incident Data Object (EIDO) Working Group • **EIDO Management:** Management of Emergency Incident Data Objects (EIDO) **IDX Functional Element:** i3 Architecture
4.	What kind of information is in an EIDO?	An EIDO contains information about a single incident including: the calls related to that incident, the responders assigned to the incident, the participants and vehicles involved in the incident, etc. EIDOs will often include the caller's information like name, number, and location. EIDOs can also include agents' notes, information about responder equipment, agencies involved in the incident, and lots of other incident information. You can find details on all of the kinds of information that can be transferred in an EIDO in the NENA/APCO Emergency Incident Data Object (EIDO).
5.	Is there a standard JSON schema for the EIDO?	The JSON EIDO schema is under development.

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6.	What is the relationship between an incident record and EIDO?	An incident record is an internal representation of the incident information and is typically proprietary to an agency's system. An EIDO is an external representation of the current state of an incident as known by the sending FE.
7.	Does the user have to push a "send EIDO" button to send EIDOs to other systems?	No – the system sends EIDOs to other systems when the Incident state changes, whether because a user entered something, or because the system received automated data like the location of an assigned unit. For user-entered information, there may be a "save" or "commit change" button, but it's really the fact that the Incident state has changed that triggers EIDOs being sent, rather than the button push.
8.	How are EIDOs generated?	An EIDO is a data object, a JSON data object specifically. EIDOs are generated by software in response to changes in incident status. Some EIDOs may be generated as a result of human action like choosing a responder in a dispatch ("CAD") system. Some may be generated automatically, like a change in a responding vehicle's location determined by an AVL system. EIDOs will not be displayed to users directly. Some user interface may (or may not) change in response to receipt of an EIDO, but that depends on the function of the user interface and its implementation. EIDOs are computer to computer notifications of incident state, as known by the sender, at the time it was sent. They are standardized to allow call ("CPE") to dispatch ("CAD"), CAD to CAD, CAD-to-responder (e.g. MDT), PSAP to EOC, or any other systems from multiple vendors to interoperate where incident state is exchanged.
9.	Is an EIDO a complete record of the call, or something less?	No, an EIDO represents the state of an **Incident**, which may have zero or more **Calls** associated with it. An EIDO also represents the state of an incident **at the time it was sent**, as known by the system or agency that sent it. (See EIDO FAQ# 10)
10.	If an EIDO is not a complete record of the call, how does that look?	An EIDO only includes INCIDENT (not just "call") information as known by the FE that is generating the EIDO at the time it was sent. If there is a change in the state of an incident, that change is included in a new EIDO. The EIDO has no incident history.

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
11.	Is an EIDO only a snapshot in time that carries data from one point to another?	Yes.
12.	Does the EIDO accumulate the entire data exchange record?	No. The accumulation of the entire data exchange record for an Agency is located in the Agency's logger(s).
13.	How does an FE or Agency get an EIDO?	The EIDO Conveyance working group is writing standards that define how EIDOs are sent ("conveyed"). Current draft text provides several mechanisms including a "push" mechanism where the FE that creates the EIDO sends it to some other FE without any prior action by the recipient. This is used in, for example, a typical dispatch operation, where the sending FE (for example, the Call Handling FE) sends an EIDO to, for example, a Dispatch FE, to request dispatch. The sender includes in the EIDO what it knows about the incident and the recipient does whatever it believes is appropriate for that incident. There is also a proposed "pull" operation where the receiver asks (in advance) with a subscription mechanism to receive EIDOs based on a "filter" specification. The subscription mechanism is typically used to get periodic updates of incident state as an incident progresses. It can also be used to inform an agency of new incidents opened by the sender that match a set of criteria specified in the subscription.
14.	If an EIDO is only a snapshot in time, where are the EIDO transactions logged?	EIDOs must be logged when they are sent. To get history, you query the logger of the sender. EIDOs may be logged by the recipient. If they are, you can get history from the recipient's logger, but the sender's logger is "authoritative".

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
15.	Does an EIDO have a complete history of the incident at the time it is first generated and then only updates after that?	An EIDO represents the state of an incident as known by the sender at the time the EIDO was sent. The EIDO is a snapshot in time, not a complete history. If the recipient uses the subscription mechanism, then whenever the state changes sufficiently, the sender will create a new EIDO and send it. That updates the incident at the recipient. At present, the draft conveyance text expects each EIDO to contain the entire state of the incident as known by the sender, and not changes to the state. If the recipient needs to know what happened before an EIDO was sent, they get it from the logger. If they need to know the state after an EIDO was sent, they subscribe to the incident at the sender, and they will get new EIDOs when state changes.
16.	Other i3 data items can be sent "by value" or "by reference". What does EIDO transmission use?	The current draft conveyance offers both in some circumstances. Most transmission is "by value", but an FE can create a URI which, when dereferenced, would return the current EIDO (value). Similarly, an FE can create a URI which is used with the subscription service to receive EIDOs. The subscription URI is another form of EIDO by reference.
17.	How is a Reference obtained?	A reference may be obtained from a transferred call in the SIP signaling. The "Service and Agency Locator" can return a URL for an agency 's "EIDO reference factory" service, which, when queried with an incident ID, returns a URL that can be used with the dereference service. As above, the FE can also create a subscription URI which also is a form of EIDO by reference.
18.	How do I control what EIDO information is made available?	As with all i3 services, the content of the EIDO, the subscription service, the dereference service and the reference factory service responses are all subject to the agency's Data Rights Management policy, and thus the EIDO owner determines who can use these services and what data they can obtain from these services.
19.	When an EIDO payload is done by-reference, how does that look?	An FE can generate a URI and distribute the URI. An FE in possession of the URI "dereferences" it by using an HTTP Get operation, which access's a dereference service, which returns the then-current value of the EIDO. If the GET is repeated later, a new EIDO with current state is returned.

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20.	When does an EIDO get generated from triggered events (e.g., note-taking?	In general, any event which would change the state of an incident sufficiently such that at least one field of the EIDO would change is sufficient to generate a new EIDO. However, with the subscription service, the recipient can specify content, rate and/or location filter criteria that affects when it receives EIDOs. All filters can reduce the number of EIDOs sent, but the rate filter also has a minimum rate specification, which if used can cause an EIDO to be sent even when no value changes.
21.	Does the EIDO calltaker note data component, or any other data component that contains multi-line text get generated after a single character is typed, and after every character is typed, or only when the creator 'saves' or otherwise causes the entry to be captured into an EIDO?	The current proposed transport draft uses Subscribe/Notify to send updated EIDOs. The mechanism includes filters that allow the recipient to control the rate of transmission. The sender can decide how often to send updates, which could be as often as every character, or as little as complete notes. The recipient can limit how often it receives EIDOs using the rate filters.

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
22.	The APCO-NENA EIDO document says that an EIDO does not provide historical data. What does that mean?	It means that you only get the entire (not delta) CURRENT 'state' of the incident, as known by the sender. Historical data is stored in, and retrieved from the logging service.
23.	How do I determine that something has changed during the course of an incident?	At least one field will be different from the previous EIDO received for this incident, but see below*. The EIDO itself doesn't indicate that something changed. The UI determines what the agent/user becomes aware of, and how they are notified. * The conveyance document describes the use of "rate" filters, one of which is a minimum rate. An EIDO may be sent to achieve the minimum rate, which may not have any fields different from the prior EIDO.
24.	Where do EIDO data files get stored?	They don't get stored. There is no such thing as a "EIDO data file". EIDOs sent are logged, so there is a copy in the logging service of the sender. Received EIDOs may be logged, so there may be a copy in the logging service of the recipient. Anything else is implementation dependent. Systems that exchange EIDOs probably store the information in their own incident record. Neither the EIDO standard nor STA-010 define how the data in EIDO messages must be physically stored in FEs that exchange EIDO messages.

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
25.	Is there a way to show the recipient that current data within the EIDO is not the original data (e.g., location data was updated/changed – is there indication of this to the PSAP)?	No, but the history is in the logging service.
26.	When is a new EIDO sent?	An EIDO is sent when a significant change in incident state changes. At minimum, at least one data component in the EIDO has to change from the prior EIDO sent for this incident. Also see EIDO FAQ# 20, and EIDO FAQ# 23. Policy in the sender may restrict sending an EIDO when there are what it considers minor values that ARE visible in a data component. The usual example is location of a responding unit.
27.	Is it going to create a trail for us follow?	The "trail" is in the logger.
28.	Does it create a map?	EIDOs don't create a map. Information in the EIDO can be used by the User Interface to create or update a display that may include a map.
29.	Will actions such as rebid create another EIDO?	"Rebid" would create a new EIDO if and only if the response changes by some policy determined value AND the filter for the recipient requests it.

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
30.	What is the difference between an EIDO vs Incident Record	"Incident Record" is not standardized, EIDO is. An implementation may have more data (non-standardized) in its local incident record than in an EIDO. (Also see EIDO FAQ# 6)
31.	What notes are updated?	There is a data component in an EIDO that is called a note, and there are references to notes in several other data components. You can "update" any note, just like you can "update" any other data component. You send an EIDO that has a change in that data component.
32.	Which PSAP workflows will generate an EIDO?	EIDOs are sent when a new incident is generated (either receipt of call or a self-declared incident), and whenever state changes. State changes are determined by the EIDO data components: when any of those data components has at least one element that changes, the agency that determines the changes sends EIDOs. Events that might cause an EIDO to be sent include (not limited to): • Call Handling (call received, answered, transferred, terminated) • Dispatch operations (request another agency dispatch, or select a unit to dispatch) • Incident classification • Responder unit reports (arrived on scene, determination of victim/perpetrator/witnesses, • Clearing operations

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7 Table 1: Q&A about what an Emergency Incident Data Object (EIDO) is and is not.		
33.	How is access to the information in an EIDO controlled?	Standard NG9-1-1 Data Rights Management mechanisms apply to EIDOs. There are restrictions on what data may be passed to an agency that the sender received from another agency. Data rights management for data received from another agency requires additional development work. In the meantime, a way to control access to 3rd parties is to give a link to the data, rather than the data itself (by ref versus by value).
34.	How are new values for the 'Reason for Issue' field in the EIDO generated?	Reason for Issue values are defined in a Registry managed by the NENA Registry System. Creating a new value requires a specification document and expert review.
35.	An EIDO contains Current State. What does Current State always include?	Current state, as known by the entity sending the data at the time the EIDO was sent, will include the data components that the sender is aware of, which may differ at any point in time. However, several elements are always included in an EIDO. Those are listed as 'mandatory' elements in the EIDO header.

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8 Table 2: Q&A about what the Incident Data Exchange (IDX) is and is not.

IDX FAQ#	Questions	Answers
1.	What is the purpose of an IDX?	An Incident Data Exchange (IDX) is a functional element that aggregates EIDO information from multiple FEs within an agency and creates a composite EIDO that represents the entire state of an incident as known by the agency at the time the aggregated EIDO was sent by the IDX. To accomplish this task, the IDX receives EIDOs from all the constituent FEs within the agency and combines them using an algorithm to create a single composite EIDO. FEs or agencies inside or outside the agency can then obtain the composite EIDO from the IDX. There is a second type of IDX that coalesces information from more than one IDX for a multi-agency incident. It is called the Inter-agency IDX. The Inter-agency IDX obtains EIDOs from all the agencies involved in an incident and creates a composite view of the incident from the constituent EIDOs. Any (authorized) agency can then get a unified view of the incident by obtaining an EIDO from the Inter-agency IDX.
2.	Where are the specifications for the IDX?	They will be in V4 of STA-010, but work has not yet begun on the IDX section.
3.	From an operational perspective how does the IDX get EIDOs	The IDX subscribes to all the FEs within an agency and obtains updates for every incident from every FE within the agency.
4.	Can the IDX send EIDOs by reference?	The IDX may deliver coalesced EIDOs by reference. If it does so, then it does the dereferencing for those references.

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5.	Is the IDX capable of receiving a constituent EIDO 'by reference'?	No. The IDX always subscribes to the FEs that supply it constituent EIDOs, therefore the EIDOs are sent by the FEs, to the IDX 'by value'.
6.	If an EIDO is received by an IDX containing data 'by reference', what is in the coalesced EIDO it sends?	If the data was received 'by reference', it is sent 'by reference'. If the data was received 'by value', it is sent 'by value'.
7.	When an outside organization wants to obtain an EIDO, does it do it through the IDX?	In most cases yes. Policy can determine if an FE in an outside organization is permitted to obtain EIDOs from FEs other than the IDX.
8.	How does an FE locate the IDX?	The agency locator (defined in STA-010) will contain the address (URI) of the IDX that needs to be interrogated about incident information for an agency.

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9.	Does the IDX always "mediate" requests for an EIDO? Where mediate means that all requests for EIDOs go through an IDX.	Within an agency, one FE may send/receive EIDOs to other FEs directly. For FEs outside the agency, see FAQ <insert the FAQ above> While it is not mandatory that FEs within an agency use the IDX, there are situations and functions that benefit from having the IDX do mediation. In particular, the coalescing algorithm used by the IDX is complex, and should not be duplicated in other FEs.
10.	Can EIDOs be exchanged without an IDX?	Yes. An FE can exchange EIDOs directly with other FEs. This might be implementation specific. In addition, STA-010 specifies how to include an EIDO in a transferred call.
11.	Does the IDX act as a hub (similar to a location server) as opposed to a logger (after call time)?	The IDX is a live FE that acts as an aggregator and only keeps a current picture of an incident. It is not a store of historical information (e.g., if the address has changed three times then only the last change will be in the IDX).

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8 Table 2: Q&A about what the Incident Data Exchange (IDX) is and is not.		
12.	EIDOs may have sensitive information, how is that information protected?	Security for EIDO exchanges is no different than any other exchange in i3. Credentials will be used for all EIDO exchanges (e.g., incident updates or requests for service setup). Requestor will identify and authenticate itself and the server will authenticate back to the requestor. Authorization and authentication is handled at the beginning of the exchange and credentials are used to filter based on policy. The Data Rights Management policy of the sender of the EIDO is the policy that is determinant as to what information is allowed to be exchanged.
13.	How does an FE that receives an EIDO send information it receives in an EIDO that it sends?	In general, FEs may not send information they receive from another entity. However, if an FE receives a reference to an EIDO (or a component of an FE) it may pass the reference on. Authentication of the requester is accomplished by the element providing the dereferenced value. If you dereference an EIDO or component to obtain a value, one should never forward the value, but only the reference URI. Dereferencing is always done at the host designated by the URI.
14.	Is dereferencing always done at the IDX?	The URI leads to some entity that will do the dereferencing, that may or may not be the IDX.
15.	What credentials are used by an FE (including an IDX)?	Any entity sending or receiving an EIDO must have credentials (i.e. public/private key pair issued within the Public Key Infrastructure (PKI) defined in STA-010)

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8 Table 2: Q&A about what the Incident Data Exchange (IDX) is and is not.		
16.	Does the IDX maintain a listing of EIDO related transactions?	No. The Logging Service performs this function.
17.	IDX vs. Logging Service: which element knows about every EIDO generated or distributed in/out of its domain?	The logging Service. The IDX keeps just a current picture of the incident to pass on to a subscriber.
18.	Is the incident record stored in IDX	An IDX may store current data for active incidents but does not store history.
19.	What about an Incident that spans more than one Agency?	When an Incident involves two or more Agencies, each Agency maintains their current view of the Incident which can be obtained from their IDX. Each agency has an IDX and a Logging Service. There is a way to discover all the Agencies involved in an incident and where the Logging Service and IDX for each of those agencies can be reached. There may be an Inter-Agency IDX, which is part of an NGCS, which coalesces information about a multi-Agency Incident from each of the constituent Agency involved and produces a single EIDO representing the aggregated current state of the Incident of all Agencies.

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8 Table 2: Q&A about what the Incident Data Exchange (IDX) is and is not.		
20.	How do you present full incident history to the call taker?	You get current incident state from the individual Functional Elements and/or the IDX (which aggregates incident data from multiple FEs). You get history from the Logging Service.
21.	If an EIDO is only a snapshot in time, where are the EIDO transactions logged?"	In the Logging Service.

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8 Table 2: Q&A about what the Incident Data Exchange (IDX) is and is not.		
22.	If A transfers to B, would B then request the dereference function back through the IDX at A? If so, when B transfers to C, does C request the dereference function back through B or A?	An IDX may or may not be used. If an IDX is used, B gets an EIDO as part of the transfer. It could be by value or reference. If sent by reference, the URL you get tells you who can dereference it. It could be the IDX (that is implementation specific). For example, when A sends an EIDO 'by reference' to B, B goes back to A to dereference it. When B transfers the incident to C, if B send the EIDO by reference, then C goes back to B to dereference it. C will know that A is involved, and if C wants to find current state and to get updates, it will request those from A. When B transfers the incident to C, if B send the EIDO 'by value', then C doesn't need to dereference, but may still opt to request current state and updates from A.

9 Table 3: References		
REF 1.	From NENA/APCO-INF-005 https://www.nena.org/page/EIDD_INF	NENA/APCO Emergency Incident Data Document Information Document
REF 2.	NENA-STA-010 https://www.nena.org/page/i3_Stage3	NENA Detailed Functional and Interface Standards for the NENA i3 Solution

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