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VoIP Standards Development Organizations

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1 Executive Overview

1.1 Purpose and Scope of Document

This "NENA VoIP Standards Development Organizations" is a reference for NENA technical committees to use for determining the various standards setting bodies involved in the implementation and on going development of VoIP protocols and procedures as they relate to emergency calling.

1.2 Reason for Issue

This document is issued to serve as a reference for near term standard development organization. The intent is to update the document on a periodic basis. It is also recognized that this document may not be complete as other organizations may exist which were not discovered during the development of the document.

1.3 Reason for Reissue

NENA reserves the right to modify this document.

1.4 Acronyms/Abbreviations

This is not a glossary! See NENA 01-002 - NENA Master Glossary of 9-1-1 Terminology located on the NENA web site for a complete listing of terms used in NENA documents.

The following Acronyms are used in this document:	
ALI	Automatic Location Identification
ANI	Automatic Number Identification
ATIS	Alliance for Telecommunications Industry Solutions

2 SDO Matrix

SDO	Subcommittee or Work Group	Activity
ATIS http://www.atis.org	ESIF http://www.atis.org/esif/	ESIF is the primary venue for the telecommunications industry, public safety & other stakeholders to develop & refine technical & operational interconnection issues that will ensure this life-saving service is available for everyone in all situations

	IP-COAD	Mission: To contribute to the planning, development and architectural design of an overall IP-based E9-1-1 system, providing for a wider recognition of the deliverable when submitted to ESIF as a standards requirement document (SRD) for industry endorsement and follow-on actions
ETSI http://www.etsi.org/	EMTEL http://www.emtel.etsi.org	SR 002 180 Requirements for Communication of citizens with authorities/organizations in case of distress (emergency call handling), Published and freely available. SR 002 181 Requirements for Communication between authorities/organizations in case of distress, draft version expected February 2004. SR 002 181 Requirements for Communication of authorities/organizations with citizens in case of distress (Civil Defence), to be drafted. TR 102 197 Preliminary analysis of EMTEL and local Emergency Service Requirements for IP networks and Next Generation Networks, Published and freely available. TS 102 164 Location Information Handling for Emergency Situations, Published and freely available as initial version, currently being revised.

IEEE	802.1ab	Excerpt from draft 5.1 – NOTE—The LLDP protocol is designed to advertise information useful for discovering pertinent information about a remote peer and to populate topology MIBs. It is not intended to act as a configuration protocol for remote devices, nor as a mechanism to signal control information between peers. During the operation of LLDP, it may be possible to discover configuration inconsistencies between devices on the same physical LAN. LLDP does not provide a mechanism to resolve those inconsistencies. Rather, it provides a means to report discovered information to higher layer management entities.
IETF http://www.ietf.org	GeoPriv WG http://datatracker.ietf.org/wg/geopriv/charter/	Define mechanism to allow IP device to become location aware at time of network connection. https://tools.ietf.org/html/draft-ietf-geopriv-dhcp-lci-option-03 https://tools.ietf.org/html/draft-ietf-geopriv-dhcp-civil-02 Define a protocol or requirements for transport of location information with appropriate privacy protections. https://tools.ietf.org/html/draft-ietf-geopriv-policy-01
	Sipping WG https://datatracker.ietf.org/wg/sipping/charter/	Scenarios, e.g., hybrid VoIP-PSTN https://tools.ietf.org/html/draft-taylor-sipping-emerg-scen-01 Overall architecture for emergency calling https://tools.ietf.org/html/draft-schulzrinne-sipping-emergency-req-00 Describes ‘sos’ SIP URI https://tools.ietf.org/html/draft-ietf-sipping-sos-00 New DNS resource records for location mapping https://tools.ietf.org/html/draft-rosen-dns-sos-00

ITU http://www.itu.int/home/index.html	E.106	*Description of an International Emergency Preference Scheme* This recommendation describes the International Emergency Preference Scheme (IEPS) which is needed when there is a crisis situation which causes abnormal telecommunication requirements for governmental, military, civil authorities, and other essential users of public telecommunications networks. It allows authorised users to have access to the International Telephone Service while the service is restricted due to damage, congestion, and/or other faults. *The 2003 Revision changes the title to "International Emergency Preference Scheme for Telecommunications Disaster Relief Operations"* Revision expected October 2003
	F.706	*Service Description for an International Emergency Multimedia Service* This recommendation defines an International Emergency Multimedia Service (IEMS) for use by Administrations, and other essential users of public telecommunications, during crisis situations when normal communications facilities are restricted due to physical damage, equipment failure, or unusually high traffic volume. While E.106, Description of an International Emergency Preference Scheme (IEPS), is for application to PSTN, ISDN, and PLMN, this recommendation serves as an extension to include multimedia services for emergency communications over other network environments, including IP-based packet networks. October 2002

NRIC VII https://www.fcc.gov/encyclopedia/network-reliability-and-interoperability-council-vii	Focus Group 1A	Enhanced 911 – Near Term Issues
	Focus Group 1B	Enhanced 911 – Long Term Issues
	Focus Group 1C	Enhanced 911 – Network Outages and Best Practices
	Focus Group 1D	Enhanced 911 – PSAP, Emergency Communications beyond 911 (First Responders)
TIA http://www.tiaonline.org	TR41.4	Currently has TSB-146 outlining how an Enterprise E911 VoIP system may work. This mechanism follows NENA's Model Legislation (utilizing ERLs & ELINs). This document is currently undergoing revision to include WLAN devices and will include any new functionality afforded by new protocol additions.

2.1 SDO Descriptions

2.1.1 3GPP

The 3rd Generation Partnership Project (3GPP) is a collaboration agreement that was established in December 1998. The collaboration agreement brings together a number of telecommunications standards bodies which are known as "Organizational Partners". The current Organizational Partners are ARIB, CCSA, ETSI, T1, TTA, and TTC.

The establishment of 3GPP was formalized in December 1998 by the signing of the "The 3rd Generation Partnership Project Agreement."

The original scope of 3GPP was to produce globally applicable Technical Specifications and Technical Reports for a 3rd Generation Mobile System based on evolved GSM core networks and the radio access technologies that they support (i.e., Universal Terrestrial Radio Access (UTRA) both Frequency Division Duplex (FDD) and Time Division Duplex (TDD) modes). The scope was subsequently amended to include the maintenance and development of the Global System for Mobile communication (GSM) Technical Specifications and Technical Reports including evolved radio access technologies (e.g. General Packet Radio Service (GPRS) and Enhanced Data rates for GSM Evolution (EDGE)).

The discussions that led to the signing of the 3GPP Agreement were recorded in a series of slides called the "Partnership Project Description" that describes the basic principles and ideas on which the project is based. The Partnership Project Description has not been maintained since it's first creation but the principles of operation of the project still remain valid.

In order to obtain a consolidated view of market requirements a second category of partnership was created within the project called "Market Representation Partners".

"Observer" status is also possible within 3GPP for those telecommunication standards bodies which have the potential to become Organizational Partners but which, for various reasons, have not yet done so.

A permanent project support group called the "Mobile Competence Centre (MCC)" has been established to ensure the efficient day to day running of 3GPP. The MCC is based at the ETSI headquarters in Sophia Antipolis, France.

There are many "Frequently Asked Questions" concerning 3GPP but should you require any further information, this may be obtained from "3GPP Contact"

2.1.2 ATIS

ATIS is a United States based body 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.

ATIS prioritizes the industry's most pressing, technical and operational issues, and creates interoperable, implementable, end to end solutions -- standards when the industry needs them and where they need them.

Over 1,400 industry professionals from more than 400 communications companies actively participate in ATIS' 16 industry committees and incubator solutions programs. ATIS develops standards and solutions addressing a wide range of industry issues in a manner that allocates and coordinates industry resources and produces the greatest return for communications companies.

ATIS creates solutions that support the rollout of new products and services into the communications marketplace. It's standardization activities for wireless and wireline networks include interconnection standards, number portability, improved data transmission, Internet telephony, toll-free access, telecom fraud, and order and billing issues, among others. ATIS is accredited by the American National Standards Institute (ANSI).

2.1.3 CableLabs

Founded in 1988 by members of the cable television industry, Cable Television Laboratories, Inc. (CableLabs®) is a non-profit research and development consortium that is dedicated to pursuing new cable telecommunications technologies and to helping its cable operator members integrate those technical advancements into their business objectives

2.1.4 ETSI

ETSI (the European Telecommunications Standards Institute) is a not for profit organization whose mission is to produce the telecommunications standards that will be used for decades to come throughout Europe and beyond.

Based in Sophia Antipolis, south of France, ETSI unites 800 members from 64 countries inside and outside Europe, and represents administrations, network operators, manufacturers, service providers, research bodies and users. The Institute's work program is determined by its members, who are also responsible for approving its deliverables. As a result, ETSI's activities are maintained in close alignment with the market needs expressed by its members.

ETSI plays a major role in developing a wide range of standards and other technical documentation as Europe's contribution to world-wide standardization in telecommunications, broadcasting and information technology. ETSI's prime objective is to support global harmonization by providing a forum in which all the key players can

contribute actively. ETSI is officially recognized by the European Commission and the EFTA secretariat.

ETSI is governed by the ETSI Directives including its Statutes and Rules of Procedure

2.1.5 IEEE

The IEEE (Eye-triple-E) is a non-profit, technical professional association of more than 380,000 individual members in 150 countries. The full name is the Institute of Electrical and Electronics Engineers, Inc., although the organization is most popularly known and referred to by the letters I-E-E-E.

Through its members, the IEEE is a leading authority in technical areas ranging from computer engineering, biomedical technology and telecommunications, to electric power, aerospace and consumer electronics, among others.

Through its technical publishing, conferences and consensus-based standards activities, the IEEE

- produces 30 percent of the world's published literature in electrical engineering, computers and control technology,
- holds annually more than 300 major conferences and
- has nearly 900 active standards with 700 under development.

2.1.6 IETF

The Internet Engineering Task Force (IETF) is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. It is open to any interested individual.

The actual technical work of the IETF is done in its working groups, which are organized by topic into several areas (e.g., routing, transport, security, etc.). Much of the work is handled via mailing lists. The IETF holds meetings three times per year.

The IETF working groups are grouped into areas, and managed by Area Directors, or ADs. The ADs are members of the Internet Engineering Steering Group (IESG). Providing architectural oversight is the Internet Architecture Board, (IAB). The IAB also adjudicates

appeals when someone complains that the IESG has failed. The IAB and IESG are chartered by the Internet Society (ISOC) for these purposes. The General Area Director also serves as the chair of the IESG and of the IETF, and is an ex-officio member of the IAB.

The Internet Assigned Numbers Authority (IANA) is the central coordinator for the assignment of unique parameter values for Internet protocols. The IANA is chartered by the Internet Society (ISOC) to act as the clearinghouse to assign and coordinate the use of numerous Internet protocol parameters.

First-time attendees might find it helpful to read The Tao of the IETF. This was published as RFC3160

2.1.7 ITU

The International Telecommunication Union is unique among international organizations in that it was founded on the principle of cooperation between governments and the private sector. With a membership encompassing telecommunication policy-makers and regulators, network operators, equipment manufacturers, hardware and software developers, regional standards-making organizations and financing institutions, ITU's activities, policies and strategic direction are determined and shaped by the industry it serves.

An Evolving Role

The climate in which ITU operates today is very different from the one in which it was founded some 135 years ago. Over the past 20 years, telecommunications have grown from a tool that facilitated person-to-person communications to the foundation that underpins a huge number of human activities, from international trade and commerce to health and, increasingly, education. Fast, reliable telecommunication networks are now a vital ingredient in the trans-border delivery of services such as banking, transportation, tourism, online information and electronic home shopping.

At the same time, the Union's client base is also evolving, due to changes in the way telecommunication services are delivered and the convergence of the communication, computing and audio-visual entertainment industries. Liberalization and deregulation of the telecommunication sector in many countries has prompted traditional ITU members to look to ITU to provide new services which place greater emphasis on policy development and regulatory guidance.

In addition, a growing number of organizations working in fields such as computer software development, entertainment and broadcasting are finding value in ITU membership as their activities become increasingly focused around telecommunications-based services.

In this rapidly changing environment, ITU is changing too, reshaping itself to ensure it remains relevant to the evolving needs of its long-standing members, while recognizing and fulfilling the expectations of newer players.

2.1.7.1 Structure and Activities

The three Sectors of the Union - Radiocommunication (ITU-R), Telecommunication Standardization (ITU-T), and Telecommunication Development (ITU-D) - work today to build and shape tomorrow's networks and services. Their activities cover all aspects of telecommunication, from setting standards that facilitate seamless interworking of equipment and systems on a global basis to adopting operational procedures for the vast and growing array of wireless services and designing programmes to improve telecommunication infrastructure in the developing world. ITU's work has provided the essential background that has enabled telecommunications to grow into a US$1 trillion industry worldwide.

Each of the three ITU Sectors works through conferences and meetings, where members negotiate the agreements which serve as the basis for the operation of global telecommunication services.

Study groups made up of experts drawn from leading telecommunication organizations worldwide carry out the technical work of the Union, preparing the detailed studies that lead to authoritative ITU Recommendations.

ITU-R draws up the technical characteristics of terrestrial and space-based wireless services and systems, and develops operational procedures. It also undertakes the important technical studies which serve as a basis for the regulatory decisions made at radiocommunication conferences.

In ITU-T, experts prepare the technical specifications for tele-communication systems, networks and services, including their operation, performance and maintenance. Their work also covers the tariff principles and accounting methods used to provide international service.

ITU-D experts focus their work on the preparation of recommendations, opinions, guidelines, handbooks, manuals and reports, which provide decision-makers in developing countries with `best business practices' relating to a host of issues ranging from development strategies and policies to network management.

There are currently 24 study groups spanning the Union's three Sectors (7 in ITU-R, 14 in ITU-T, 2 in ITU-D), which together produce around 550 new or revised Recommendations every year. All ITU Recommendations are non-binding, voluntary agreements.

Each Sector also has its own Bureau which ensures the implementation of the Sector's work plan and coordinates activities on a day-to-day basis.

2.1.8 NRIC

The Network Reliability and Interoperability Council

2.1.8.1 The Committees Official Designation

The official designation of the advisory committee will be the "Network Reliability and Interoperability Council VII" (hereinafter, the "Council").

2.1.8.2 The Council's Objectives and Scope of Its Activity

The purpose of the Council is to provide recommendations to the FCC and to the communications industry that, if implemented, shall under all reasonably foreseeable circumstances assure optimal reliability and interoperability of wireless, wireline, satellite, cable, and public data networks.[1] This includes facilitating the reliability, robustness, security, and interoperability of communications networks including emergency communications networks. The scope of this activity also encompasses recommendations that shall ensure the security and sustainability of communications networks throughout the United States; ensure the availability of adequate communications capacity during events or periods of exceptional stress due to natural disaster, terrorist attacks or similar occurrences; and facilitate the rapid restoration of telecommunications services in the event of widespread or major disruptions in the provision of communications services. The Council shall address topics in the following areas:

2.1.9 TIA

The Telecommunications Industry Association (TIA) is the leading U.S. non-profit trade association serving the communications and information technology industry, with proven strengths in market development, trade shows, domestic and international advocacy, standards development and enabling e-business. Through its worldwide activities, the association facilitates business development opportunities and a competitive market environment. TIA provides a market-focused forum for its member companies, which manufacture or supply the products and services used in global communications.

2.1.9.1 Mission

TIA represents providers of communications and information technology products and services for the global marketplace through its core competencies in standards development, domestic and international advocacy, as well as market development and trade promotion

[1] Public data networks are networks that provide data services for a fee to one or more unaffiliated entities

programs. The association facilitates the convergence of new communications networks while working for a competitive and innovative market environment. TIA strives to further members' business opportunities, economic growth and the betterment of humanity through improved communications.

2.1.9.2 History

In 1924, a small group of suppliers to the independent telephone industry organized to plan an industry trade show. Later, that group became a committee of the United States Independent Telephone Association. In 1979, the group split off as a separate affiliated association, the United States Telecommunications Suppliers Association and became one of the world's premier organizers of telecom exhibitions and seminars. TIA was formed in April 1988 after a merger of USTSA and the Information and Telecommunications Technologies Group of EIA. EIA began as the Radio Manufacturers Association in 1924.

Since 1988, TIA has advocated numerous policy issues for the benefit of its members, has sponsored engineering committees that set standards that determine the pace of development in the industry, has provided a marketplace for members and their customers, and has served as a forum for the examination of industry issues and industry information. In the fall of 2000, the MultiMedia Telecommunications Association (MMTA) was integrated into TIA. As part of the integration, TIA restructured and developed new departments focused on global market development. TIA represents the communications sector of EIA.