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Overview of the work of standards development organizations and other organizations on emergency telecommunications service

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Draft revised Supplement 62 (TRQ.ETS-overview) to ITU-T Q series Recommendations

Overview of the work of standards development organizations and other organizations on emergency telecommunications service

Summary

This Supplement provides a convenient reference to assist ITU-T Study Groups and other national and international SDOs as they develop Recommendations and standards for Emergency Telecommunications Services (ETS). It identifies published ETS related Recommendations and standards as well as those currently in work programmes.

Keywords

ETS, program management, program coordination

Introduction

Study Group 11 is responsible to coordinate Emergency Telecommunications Service (ETS) activities for NGN and future networks so that the implementation of specific capabilities can be defined in an integrated fashion. This Supplement is the vehicle which is used to fulfil this coordination obligation and is developed to make available a convenient reference to assist ITU-T Study Groups and other national and international SDOs as they develop Recommendations and Standards for ETS. The intent of this Supplement is to encourage coordination and cooperation in the development of an internationally applicable set of inter-workable ETS implementations.

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1. Scope

Emergency Telecommunications Service (ETS) is a national service providing priority telecommunications to the ETS authorized users in times of disaster and emergencies.

This Supplement identifies both completed and ongoing work related to ETS occurring in various ITU-T Study Groups, as well as the status of their work. This roadmap captures the results from an analysis of existing work activities related to ETS. Specifically, it identifies the study tasks that have been added to the work plans of individual Questions of the relevant Study Groups and their status. It captures identified gaps that exist, as well as the plans which show how these gaps will be addressed.

National standards support the origination and termination of ETS calls in national networks. (This document recognizes that ETS calls may include ETS voice, video and data calls originating or terminating in: the PSTN; wireless networks; and NGN / future networks.)

These national standards complement the ETS related ITU-T Recommendations, which are intended to support the extension of national ETS calls across international boundaries. It is understood that the ITU-T Recommendations must address situations where invocation of ETS is restricted to users authorized by their respective governments and, where international agreements are needed to honour authorization in the originating network when delivering the call in a destination network which is a different national network from the network in which the invocation of the service occurred.

Provision has been made to capture relevant ETS related national standards, and other SDO international ETS related standards, in this document. However, as these other SDO standards are not the ITU-T's responsibility, the ITU-T takes no position with regards to their integrity or completeness. This document may identify the dependencies of ITU-T ETS work on activities that are, or which should be, underway in other external SDOs.

Individual-to-authority communications are outside the scope of this Supplement, e.g., calls from the general public using national, regional or local emergency and public safety services to seek assistance.

Activities related to the support of Emergency Telecommunications, which are not explicitly related to ETS, are outside the scope of this Supplement.

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- [A-1000010] *ATIS-1000010 (2006), Support of Emergency Telecommunications Service (ETS) in IP Networks*
- [A-1000011] *ATIS-1000011 (2006), ETS Packet Priority for IP NNI Interfaces – Use of Existing DiffServ Per Hop Behaviors*

[A-1000020]	ATIS-1000020 (2007), <i>ETS Packet Priority for IP NNI Interfaces – Requirements for a Separate Expedited Forwarding Mechanism</i> .
[A-1000023]	ATIS-1000023 (2013), <i>ETS Network Element Requirements for NGN IMS-based Deployments</i>
[A-0300202]	ATIS-0300202 (2009), <i>Guidelines for Network Management of the Public Switched Networks under Disaster Conditions</i>
[ATIS-1000034]	<i>Next Generation Network (NGN): Security Mechanisms and Procedures</i>
[ATIS-1000044]	<i>ATIS Identity Management: Requirements and Use Cases Standard</i>
[ATIS-1000049]	<i>End-to-End NGN GETS Call Flows</i>
[ATIS-1000053]	<i>Emergency Telecommunications Service (ETS) Profile and Tests for IP Network-to-Network Interconnection</i>
[ATIS-1000055]	<i>Emergency Telecommunications Service (ETS): Core Network Security Requirements</i>
[ATIS-1000679]	<i>Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control or ISDN User Part</i>
[ATIS-0100001]	User Plane Security Guidelines and Requirements for ETS
[ATIS-0100003]	User Plane Priority Levels for IP Networks and Services
[ATIS-0100004]	Availability & Restorability Aspects of Emergency Telecommunication Services (ETS)
[ATIS-0100006]	Service Restoration Priority Levels for IP Networks
[ATIS-0100009]	Overview of Standards in Support of Emergency Telecommunication Service (ETS)
[ATIS-0100011]	Priority for NS/EP Services in NGN/IP Environment – Role of TSP
[ATIS-0100022]	Priority Classification Levels for Next Generation Networks
[ATIS-0100036]	Media Plane Performance Security Impairments for Evolving VoIP/Multimedia Networks
[ATIS-0300100]	IP Network Disaster Recovery Framework
[T1.TR.84-2004]	IP Network Traffic Priorities and ETS

2.2.3.2 Draft ATIS References

[DA ETS SR]	Draft TR: <i>Service Requirements of ETS in NGN</i>
[DA ETS WAR]	Draft Standard: <i>ETS Wireline Access Requirements</i>
[DA ETS NER]	Draft Standards: <i>ETS Phase 2 Network Element Requirements</i>

2.2.4 ETSI References

2.2.4.1 ETSI Published References

[ETSI TS 102 181]	Requirements for communication between authorities/organizations during emergencies
[ETSI TS 102 182]	Requirements for communication from authorities to citizens during emergencies

2.2.5 IETF References

2.2.5.1 IETF Published References

- [RFC 4412] IETF RFC 4412 (2006), *Communications Resource Priority for the Session Initiation Protocol (SIP)*
- [RFC 4542] IETF RFC 4542 (2006), *Implementing an Emergency Telecommunications Service (ETS) for Real-Time Services in the Internet Protocol Suite*
- [RFC 5865] IETF RFC 5865 (2010), *A Differentiated Services Code Point (DSCP) for Capacity-Admitted Traffic*
- [RFC 6679] IETF RFC 6679, *Explicit Congestion Notification (ECN) for RTP over UDP*
- [RFC 6710] IETF RFC 6710 *Simple Mail Transfer Protocol extension for Message Priorities*
- [RFC 6735] IETF RFC 6735, *Diameter Priority Attribute Value Pairs*

2.2.6 TMF References

2.2.6.1 Published TMF References

- [GB 917] Guide Book (GB) 917, *SLA Management Handbook - Release 3.1*
- [GB 934] Guide Book GB 934, *Best Practice: Application Note to the SLA Management Handbook - Voice over IP – Release 2.0*
- [GB 971] Guide Book (GB) 971, *ETS SLA Application Note*

2.2.7 TIA References

2.2.7.1 Published TIA References

- [TIA-917] Wireless Priority Service Enhancements for CDMA Systems
- [TIA TSB-16] *Assignment of Access Overload Classes in the Cellular Telecommunications Services*
- [TIA-835-E] cdma2000 Wireless IP Network Standard
- [TIA-1163-B] *E-UTRAN - eHRPD Connectivity and Interworking: Core Network Aspects*
- [TIA-1164-1] *WiMAX-HRPD Interworking: Core Network Aspects*
- [TIA-1187] *Policy and Charging Control (PCC) for cdma2000 1x and HRPD*
- [TIA-2000.5] *Upper Layer (Layer 3) Signalling Standard for cdma2000 Spread Spectrum Systems*
- [TIA-637] *Short Message Service (SMS) for Wideband Spread Spectrum Systems*
- [TIA-856] *High Rate Packet Data Air Interface Specification*
- [TIA-1054] *cdma2000 High Rate Packet Data Supplemental Services*
- [TIA-1140] *WiMAX™ – HRPD Interworking: Air Interface Specification*

- [TIA-1142-A] *Interoperability Specification (IOS) for Evolved High Rate Packet Data (eHRPD) Radio Access Network Interfaces and Interworking with Enhanced Universal Terrestrial Radio Access Network (E-UTRAN)*
- [TIA-878-D] *Interoperability Specification (IOS) for High Rate Packet Data (HRPD) Radio Access Network Interfaces with Session Control in the Access Network*
- [TIA-1878-D] *Interoperability Specification (IOS) for High Rate Packet Data (HRPD) Radio Access Network Interfaces with Session Control in the Packet Control Function*

2.2.8 WiMAX References

2.2.8.1 Published WiMAX References

- [WFM Stage 1-r1] WiMAX Forum - WFM-T31-122-R016v01: Service Provider Working Group (SPWG) ETS Phase 1 Requirements for Release 1.6, Feb., 2009.
- [WFM Stage 1-r2] WiMAX Forum - WFM-T31-122-R020v01: ETS Phase 2 stage 1 Requirements, Release 2.0, Nov. 2009.
- [WFM Stage 2-a1] WiMAX Forum – WFM-T32-001-R016v01: Architecture – Architecture Tenets, Reference Model and Reference Points, Base Specification, Release 1.6, ETS Stage 2 Specification (Section 7.14) November, 2010.
- [WFM Stage 3-a1] WiMAX Forum - WFM-T33-001-R016v01: Architecture – Detailed Protocols and Procedures, Base Specification, Release 1.6, ETS Stage 3 Specification (Section 4.19) November, 2010.
- [WFM Stage 2-a2] WiMAX Forum – WFM-T32-001-R020v01: Network Architecture – Architecture Tenets, Reference Model and Reference Points, Base Specification, Release 2.0, ETS Stage 2 Specification (Section 7.14), April, 2012.
- [WFM Stage 3-a2] WiMAX Forum - WFM-T33-001-R020v01: Network Architecture – Detailed Protocols and Procedures, Base Specification, Release 2.0, ETS Stage 3 Specification (Section 4.19), April, 2012.

2.2.9 Broadband Forum References

- [TR-134] Broadband Forum - TR-134: Broadband Policy Control Framework (BPCF), Issue 1, Corrigendum 1, January 2013.
- [TR-203] Broadband Forum - TR-203: Interworking between Next Generation Fixed and 3GPP Wireless Access, Issue 1, August 2012.

3. Definitions

3.1. Terms defined elsewhere:

This Supplement uses the following terms defined elsewhere:

3.1.1 Emergency Telecommunications Service (ETS) [E.107]: A national service providing priority telecommunications to the ETS authorized users in times of disaster and emergencies.

3.1.2 ETS user [E.107]: A user authorized to obtain priority telecommunications in national and/or international emergency situations.

3.1.3 IPCablecom [J.162]: An ITU-T project that includes an architecture and a series of Recommendations that enable the delivery of time-critical interactive services over cable television networks.

3.1.4 IPCablecom2 [J.360]: IPCablecom2 is a cable industry effort based on IMS architecture, designed to support the convergence of voice, video, data and mobility technologies.

3.1.5 International Emergency Preference Service (IEPS) [E.106]: The IEPS enables the use of public telecommunications by national authorities for emergency and disaster relief operations. It allows users, authorized by national authorities, to have access to the International Telephone Service, as described in ITU-T Rec. E.105 [1], while this service is restricted either due to damage, congestion or faults, or any combination of these.

3.1.6 priority treatment capabilities [E.107]: Capabilities that provide priority in the use of telecommunications network resources, allowing a higher probability of end-to-end telecommunications and use of telecommunication applications.

3.2. Terms defined in this Supplement

None defined in this Supplement.

4. Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

3GPP	3 rd Generation Partnership Project
3GPP2	3 rd Generation Partnership Project2
ANI	Application to Network Interface
ANSI	American National Standards Institute
ATIS	Alliance for Telecommunications Industry Solutions
BICC	Bearer Independent Call Control
B-ISUP	Broadband ISUP
ENI	ETS national implementation
ECN	Explicit Congestion Notification
ET	Emergency Telecommunications
ETS	Emergency Telecommunications Service
ETSMS	ETS Management Service
ETSI	European Telecommunications Standards Institute
GSM	Global System for Mobile Communications
IEMS	International Emergency Multimedia Service
IEPS	International Emergency Preference Scheme
IETF	Internet Engineering Task Force
IMS	IP Multimedia Subsystem
IP	Internet Protocol
ISUP	Integrated Services User Part
ISDN	Integrated Services Digital Network
ITU	International Telecommunications Union

ITU-T	ITU Telecommunication Standardization Sector
MLPP	Multi-Level Precedence and Preemption
MPS	Multimedia Priority Service
NNI	Network to Network Interface
NS/EP	National Security/Emergency Preparedness
PRQC	Performance, Reliability, and Quality of Service
PTSC	Packet Technologies and Systems Committee
QoS	Quality of Service
RACF	Resource Admission and Control Function
RFC	Request for Comments
S/BC	Session/Border Control
SDO	Standards Development Organization
SIP	Session Initiation Protocol
SS7	Signalling System 7
TIA	Telecommunications Industry Association
TDR	Telecommunication for Disaster Relief
TMForum	Telecommunications Management Forum
TMN	Telecommunications Management Network
TSP	Telecommunications Service Priority
UNI	User Network Interface
WiMAX	Worldwide Interoperability for Microwave Access

5. Conventions

- 1 In this Supplement the term “ETS” is typically used as a noun.
- 2 In Clause 2 References typically only the base Recommendations have been identified. Readers should assume that this reference is intended to implicitly refer to all related in force amendments, corrigenda, and implementer’s guides. However, in cases where an amendment has been explicitly generated to support ETS or IEPS, and labeled as such, it will be listed separately in the reference clause.
- 3 As this Supplement is intended to be a management oriented document, it is formatted and structured as follows:
 - Clause 6 provides pointers to example service descriptions
 - Clause 7 provides pointers to example functional requirements
 - Clause 8 provides pointers to example capability documents
 - Clause 9 provides a list of SDO’s and other organizations that have or are producing ETS related standards
 - Appendix A provides a summary of the standards listed in clause 3
- 4 “In clauses 6, 7 and 8 provision has been made for the identification of ITU-T Recommendations. In some instances one or more Recommendations have been identified. In these cases, the reader should understand that this is not considered to be an

all inclusive list. Rather there may be other equally applicable Recommendations that have not been captured in this document.” In some instances there are no Recommendations identified. The readers should understand that there may be one or more applicable Recommendations that exist and which have not been captured in this Supplement or that this may truly be a gap, i.e. no Recommendation addresses this particular item.

- 5 In those cases where a pointer is made to other SDO or other organization standards, it should be noted that the ITU-T has not: reviewed the standards to determine its integrity or if the mapping is correct; takes no position as to the correctness of reference; and has not approved their contents.
- 6 A Recommendation which addresses a number of topics may appear more than once in clauses 7, 8 and 9.

6. ETS Service Description

6.1 General

ETS, as defined in [ITU-T E.107], is a national implementation utilizing the features, facilities and applications available in national public networks and service offerings. Implementation of ETS by definition is a national matter; however, ETS national implementations are likely to exhibit some of the following characteristics:

- a) ETS users should be able to use their normal telecommunication terminals to initiate ETS calls, sessions or telecommunication during times of crisis or agreed emergency situations.
- b) An originating national network may use various methods to identify an ETS user request for ETS telecommunication.
- c) As a national capability, ETS is specifically designed to serve the telecommunication needs of authorized ETS users. ETS user authentication and authorization is a national matter.
- d) An ETS call, session or telecommunication is provided end-to-end priority treatment beyond that offered to the general public. The priority treatment is applied during the call/session establishment phase, and should continue to be applied for the duration of the call, session or telecommunication. The priority treatment consists of priority mechanisms and features applicable to various aspects (e.g., signalling, control, routing, and media traffic) that are essential for the establishment and continuation of the telecommunication, including:
 - **Priority treatment:** Priority treatment mechanisms may include priority call/session set-up (e.g., priority queuing schemes for network resources), access to additional resources (e.g., via alternate routing) and exemption from restrictive network traffic management controls (e.g., call gapping). Pre-emption in the public network (i.e., terminating any established telecommunication to release resources to serve a new ETS call/session request) is a national matter.
 - **Network interconnection and protocol interworking:** The signalling of ETS indicators transmitted across network boundaries (e.g., between a circuit-switched network and an NGN) and the ETS priority treatment should also be ensured to be interoperable across the relevant networks.

- e) An ETS user should be able to communicate with any other available user. For example, any restrictions to call/session completion should be overridden.
- f) A national government/administration decides whether user priority levels will be assigned to ETS users, and if assigned, how many levels will be used and the assignment criteria.
- g) If a network or network element is not able to distinguish an ETS call/session request from a normal call request, then the routing of an ETS requested call should proceed as a normal call and any ETS markings or indicators associated with the call should be maintained and transmitted if technically feasible.

6.2 Standards related to service descriptions

Sub-clause 6.2 provides a list of example standards that contain information on ETS service descriptions. The status of each is identified.

Note: The documents cited in this sub-clause may contain information other than service description related information.

6.2.1 ITU-T Recommendations

[ITU-T E.106]	International Emergency Preference Scheme (IEPS) for disaster relief operations
	Status: Published
	Addresses: Service Definition
[ITU-T E.107]	Emergency Telecommunications Service (ETS) and interconnection framework for national implementations of ETS
	Status: Published
	Addresses: Service Definition

7. ETS Functional Requirements

7.1 General

This clause provides a list of example standards that contain functional requirements for ETS. The examples are organized based on overall, systems and subsystems as well as for different topic areas like management, bearer mobility, resource admission control, security, signalling, and transport.

Note: Some of the documents cited in this clause are not ETS specific documents. For example, some of the documents has a broader scope, but includes functional requirements pertaining to ETS. Also, some documents cited may include topics other than functional requirements.

7.2 Overall Functional Requirements

This sub-clause captures pointers to standards that contain overall functional requirements.

7.2.1 ITU-T

[ITU-T E.106]	<i>International Emergency Preference Scheme (IEPS) for disaster relief operations</i>
	Status: Published
	Addresses: Overall Functional Requirements

[ITU-T D E.TDR]	<i>Draft ITU-T Recommendation E.TDR, Service and Operational framework for the provision of Telecommunication for Disaster Relief (TDR).</i> Status: Draft Addresses: Overall Functional Requirements
[ITU-T Y.1271]	<i>Framework(s) on Network Requirements and Capabilities to Support Emergency Telecommunications over Evolving Circuit Switched and Packet Switched Networks</i> Status: Published Addresses: General Network Requirements
[ITU-T Y.2006]	<i>Description of capability set 1 of NGN release 1</i> Status: Published Addresses: General Network Requirements
[ITU-T Y.2012]	<i>Functional requirements and architecture of next generation networks</i> Status: Published Addresses: General Functional requirements
[ITU-T Y.Sup2]	<i>Functional requirements and architecture of next generation networks - Session/border control (S/BC) functions</i> Status: Published Addresses: General Functional requirements
[ITU-T Y.2201]	<i>NGN release 1 requirements</i> Status: Published Addresses: General Network Requirements
[ITU-T Y.2205]	<i>Next Generation Networks - Emergency Telecommunications – Technical considerations</i> Status: Published Addresses: General Network Functional Requirements for IEPS/ETS Support
[ITU-T Y.2262]	<i>PSTN/ISDN emulation and simulation</i> Status: Published Addresses: General Network Functional Requirements for IEPS Support
[ITU-T Y.2271]	<i>Call server based PSTN/ISDN emulation</i> Status: Published Addresses: General Network Functional Requirements for IEPS Support
[ITU-T Q Sup 57]	<i>Signalling requirements to support the emergency telecommunications service (ETS) in IP networks</i> Status: Published Addresses: Overall functional requirements

7.3 System and Subsystem Functional Requirements

7.3.1 General

This sub-clause provides pointers to example standards that contain system or subsystem functional requirements. Standards are mapped to the functional requirements.

7.3.2 Bearer

7.3.2.1 ITU-T

[ITU-T E.106] *International Emergency Preference Scheme (IEPS) for disaster relief operations*

Status: Published

Addresses: Priority queuing schemes

[ITU-T J.260] *Requirements for preferential telecommunications over IP/Cablecom networks*

Status: Published

Addresses: Support for priority

[ITU-T Y.1271] *Framework(s) on Network Requirements and Capabilities to Support Emergency Telecommunications over Evolving Circuit Switched and Packet Switched Networks*

Status: Published

Addresses: Support for priority

[ITU-T Y.2171] *Admission Control Priority Levels in Next Generation Networks*

Status: Published

Addresses: Support for priority

7.3.3 Management

7.3.3.1 ITU-T

[ITU-T E.106] *International Emergency Preference Scheme (IEPS) for disaster relief operations*

Status: Published

Addresses: Bilateral agreements

Exemption from restrictive management controls

[ITU-T E.107] *Emergency Telecommunications Service (ETS) and interconnection framework for national implementations of ETS*

Status: Published

Addresses: Bilateral agreements

[ITU-T E.412] *Network management controls*

Status: Published

Addresses: Network Management controls

[ITU-T M.3350] *TMN service management requirements for information interchange the TMN X-interface to support provisioning of Emergency Telecommunication Service (ETS)*

Status: Published

Addresses: Network Management controls

[ITU-T Y.1271] *Framework(s) on Network Requirements and Capabilities to Support Emergency Telecommunications over Evolving Circuit Switched and Packet Switched Networks*

Status: Published

Addresses: General Network Management Requirements

[ITU-T Y.2172] *Service Restoration Priority Levels in Next Generation Networks*

Status: Published

Addresses: Network rerouting

[ITU-T D E.TDR] *Service and Operational framework for the provision of Telecommunication for Disaster Relief (TDR).*

Status: Draft

Addresses: Network Operations

7.3.4 Mobility

7.3.4.1 ITU-T

[ITU-T Y.1271] *Framework(s) on Network Requirements and Capabilities to Support Emergency Telecommunications over Evolving Circuit Switched and Packet Switched Networks*

Status: Published

Addresses: Mobility

7.3.5 Resource Admission and Control

7.3.5.1 ITU-T

[ITU-T E.106] *International Emergency Preference Scheme (IEPS) for disaster relief operations*

Status: Published

Addresses: Resource admission and control functions related IEPS support

[ITU-T Y.2111] *Resource and admission control functions in Next Generation Networks*

Status: Published

Addresses: Resource admission and control functions related IEPS support

[ITU-T Y.2171] *Admission Control Priority Levels in Next Generation Networks*

Status: Published

Addresses: Resource admission control

7.3.6 Security

7.3.6.1 ITU-T

- [ITU-T D E.TDR] *Draft ITU-T Recommendation E.TDR, Service and Operational framework for the provision of Telecommunication for Disaster Relief (TDR).*
- Status: Draft
- Addresses: General security requirements
- [ITU-T J.260] *Requirements for preferential telecommunications over IP/Cablecom networks*
- Status: Published
- Addresses: General Authentication
- [ITU-T Y.2701] *Security requirements for NGN release 1*
- Status: Published
- Addresses: Overall Functional Security Requirements. Appendix I – provides security objectives and guidelines for interconnection of emergency telecommunications services
- [ITU-T Y.2702] *Authentication and authorization requirements for NGN release 1*
- Status: Published
- Addresses: Authentication and Authorization requirements. Appendix II provides information on ETS authentication and authorization.
- [ITU-T Y.2704] *Security mechanisms and procedures for NGN*
- Status: Published
- Addresses: Security mechanisms to fulfill NGN security requirements. Appendix II – provides guidance on network provided security for ETS
- [ITU-T Y.2720] *NGN identity management framework*
- Status: Published
- Addresses: Structured approach for designing, defining, and implementing IdM solutions
- [ITU-T Y.2721] *NGN identity management requirements and use cases*
- Status: Determined
- Addresses: IdM objectives, requirements, guidelines and example use cases for the NGN. Appendix III – provides ETS related IdM use cases.
- [ITU-T Y.Supp 12] *Supplement on NGN identity management mechanisms*
- Status: Published
- Addresses: IdM mechanisms and capabilities for NGN.
- [ITU-T Y.2722] *ITU-T Recommendation Y.2722, NGN Identity Management Mechanisms and Procedures*

Status: Published

Addresses: IdM mechanisms and capabilities for NGN

[ITU-T Y.2705]

ITU-T Recommendation Y. 2705, *Minimum Security Requirements for Interconnection of Emergency Telecommunications Service (ETS)*

Status: Published

Addresses: Security requirements addressing integrity, confidentiality and availability protection for ETS communications across network boundaries (i.e., between different national networks).

7.3.7 Signalling

7.3.7.1 ITU-T

[ITU-T E.106]

International Emergency Preference Scheme (IEPS) for disaster relief operations

Status: Published

Addresses: Call marking
Priority call setup
Priority dial tone

[ITU-T J.260]

Requirements for preferential telecommunications over IP/Cablecom networks

Status: Published

Addresses: Support for authentication
Support for priority

[ITU-T Q Sup 47]

Emergency services for IMT-2000 networks – Requirements for harmonization and convergence

Status: Published

Addresses: Signalling requirements to support IEPS in IMTS systems

[ITU-T Q Sup 53]

Signalling requirements to support the International Emergency Preference Scheme (IEPS)

Status: Published

Addresses: Signalling requirements to support IEPS

[ITU-T Q Sup 57]

Signalling requirements to support the emergency telecommunications service (ETS) in IP networks

Status: Published

Addresses: Signalling requirements to support IEPS

[ITU-T Y.1271]

Framework(s) on Network Requirements and Capabilities to Support Emergency Telecommunications over Evolving Circuit Switched and Packet Switched Networks

Status: Published

Addresses: Signalling priority

[ITU-T Y.2172]

Service Restoration Priority Levels in Next Generation Networks