

I n t e r n a t i o n a l T e l e c o m m u n i c a t i o n U n i o n

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Series Q

Supplement 62

(01/2011)

SERIES Q: SWITCHING AND SIGNALLING

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

ITU-T Q-series Recommendations – Supplement 62

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Supplement 62 to ITU-T Q-series Recommendations

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

Summary

Supplement 62 to the ITU-T Q-series Recommendations 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 service (ETS). It identifies published ETS-related Recommendations and standards as well as those currently in work programmes.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T Q Suppl. 62	2011-01-28	11

Keywords

ETS, program coordination, program management.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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Introduction

The World Telecommunication Standardization Assembly (WTSA-08) assigned Study Group 11 with the responsibility to coordinate emergency telecommunications activities for NGN so that the implementation of specific capabilities can be defined in an integrated rather than piecemeal fashion. This Supplement is the vehicle which will be used to fulfil this coordination obligation and was 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 emergency telecommunications service (ETS). The intent of this Supplement is to encourage coordination and cooperation in the development of an internationally applicable set of interworkable ETS implementations.



Supplement 62 to ITU-T Q-series Recommendations

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

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 completed and ongoing work related to emergency telecommunications service (ETS) occurring in various ITU-T study groups, as well as the status of this work. This roadmap captures the results from an analysis of existing work activities related to the development of ETS capabilities for authorized users. 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 Supplement recognizes that ETS calls may include ETS voice, video and data calls originating or terminating in: the PSTN, wireless networks, and NGN 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 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 national network different 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 ETS-related standards as well, in this Supplement. However, as these other SDO developed and developing standards are not ITU-T's responsibility, ITU-T takes no position with regards to their integrity or completeness. This Supplement may identify the dependencies of ITU-T ETS work on activities that are, or which should be, underway in other external standards development organizations.

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.

2 References

2.1 ITU-T references

2.1.1 Published Recommendations and Supplements

- | | |
|---------------|--|
| [ITU-T E.106] | Recommendation ITU-T E.106 (2003), <i>International Emergency Preference Scheme (IEPS) for disaster relief operations</i> . |
| [ITU-T E.107] | Recommendation ITU-T E.107 (2007), <i>Emergency Telecommunications Service (ETS) and interconnection framework for national implementations of ETS</i> . |

- [ITU-T E.412] Recommendation ITU-T E.412 (2003), *Network management controls*.
- [ITU-T H.246] Recommendation ITU-T H.246 (2006), *Interworking of H-series multimedia terminals with H-series multimedia terminals and voice/voiceband terminals on GSTN, ISDN and PLMN*.
- [ITU-T H.248.1] Recommendation ITU-T H.248.1 (2005), *Gateway control protocol: Version 3*.
- [ITU-T H.361] Recommendation ITU-T H.361 (2006), *End-to-end quality of service (QoS) and service priority signalling in H.323 systems*.
- [ITU-T H.361 A1] Recommendation ITU-T H.361 Amendment 1 (2008), *New Annex A "IntServ/RSVP support for H.323 systems", Annex B "DiffServ support for H.323 systems" and Annex C "Priority support for H.323 systems"*.
- [ITU-T H.460.4] Recommendation ITU-T H.460.4 (2007), *Call priority designation and country/international network of call origination identification for H.323 priority calls*.
- [ITU-T H-Sup.9] ITU-T H-series Recommendations – Supplement 9 (2008), *Gateway control protocol: Operation of H.248 with H.225.0, SIP, and ISUP in support of emergency telecommunications service (ETS)/international emergency preference scheme (IEPS)*.
- [ITU-T J.160] Recommendation ITU-T J.160 (2005), *Architectural framework for the delivery of time-critical services over cable television networks using cable modems*.
- [ITU-T J.162] Recommendation ITU-T J.162 (2007), *Network call signalling protocol for the delivery of time-critical services over cable television networks using cable modems*.
- [ITU-T J.163] Recommendation ITU-T J.163 (2007), *Dynamic quality of service for the provision of real-time services over cable television networks using cable modems*.
- [ITU-T J.170] Recommendation ITU-T J.170 (2005), *IPCablecom security specification*.
- [ITU-T J.260] Recommendation ITU-T J.260 (2005), *Requirements for preferential telecommunications over IPCablecom networks*.
- [ITU-T J.261] Recommendation ITU-T J.261 (2009), *Framework for implementing preferential telecommunications in IPCablecom and IPCablecom2 networks*.
- [ITU-T J.262] Recommendation ITU-T J.262 (2009), *Specifications for authentication in preferential telecommunications over IPCablecom2 networks*.
- [ITU-T J.263] Recommendation ITU-T J.263 (2009), *Specification for priority in preferential telecommunications over IPCablecom2 networks*.
- [ITU-T J.360] Recommendation ITU-T J.360 (2006), *IPCablecom2 architecture framework*.
- [ITU-T M.3350] Recommendation ITU-T M.3350 (2004), *TMN service management requirements for information interchange across the TMN X-interface to support provisioning of Emergency Telecommunication Service (ETS)*.
- [ITU-T Q.761] Recommendation ITU-T Q.761 (1999), *Signalling System No.7 – ISDN User Part functional description*.

- [ITU-T Q.761 A3] Recommendation ITU-T Q.761 Amendment 3 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.762] Recommendation ITU-T Q.762 (1999), *Signalling System No.7 – ISDN User Part general functions of messages and signals.*
- [ITU-T Q.762 A3] Recommendation ITU-T Q.762 Amendment 3 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.763] Recommendation ITU-T Q.763 (1999), *Signalling System No.7 – ISDN user part formats and codes.*
- [ITU-T Q.763 A4] Recommendation ITU-T Q.763 Amendment 4 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.764] Recommendation ITU-T Q.764 (1999), *Signalling system No.7 – ISDN user part signalling procedures.*
- [ITU-T Q.764 A4] Recommendation ITU-T Q.764 Amendment 4 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.767] Recommendation ITU-T Q.767 (1991), *Application of the ISDN User Part of CCITT signalling system No.7 for international ISDN interconnections.*
- [ITU-T Q.767 A1] Recommendation ITU-T Q.767 Amendment 1 (2002), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.1902.1] Recommendation ITU-T Q.1902.1 (2001), *Bearer Independent Call Control protocol (Capability Set 2): Functional description.*
- [ITU-T Q.1902.1 A2] Recommendation ITU-T Q.1902.1 Amendment 2 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.1902.2] Recommendation ITU-T Q.1902.2 (2001), *Bearer Independent Call Control protocol (Capability Set 2) and Signalling System No.7 ISDN User Part: General functions of messages and parameters.*
- [ITU-T Q.1902.2 A3] Recommendation ITU-T Q.1902.2 Amendment 3 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.1902.3] Recommendation ITU-T Q.1902.3 (2001), *Bearer Independent Call Control protocol (Capability Set 2) and Signalling System No.7 ISDN User Part: Formats and codes.*
- [ITU-T Q.1902.3 A3] Recommendation ITU-T Q.1902.3 Amendment 3 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.1902.4] Recommendation ITU-T Q.1902.4 (2001), *Bearer Independent Call Control protocol (Capability Set 2): Basic call procedures.*
- [ITU-T Q.1902.4 A3] Recommendation ITU-T Q.1902.4 Amendment 3 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.1950] Recommendation ITU-T Q.1950 (2002), *Bearer independent call bearer control protocol.*
- [ITU-T Q.1950 A1] Recommendation ITU-T Q.1950 Amendment 1 (2006), *New Annex G – Call bearer control – International Emergency Preference Scheme.*
- [ITU-T Q.2630.3] Recommendation ITU-T Q.2630.3 (2003), *AAL type 2 signalling protocol – Capability Set 3.*
- [ITU-T Q.2630.3 A1] Recommendation ITU-T Q.2630.3 Amendment 1 (2006), *Support for the International Emergency Preference Scheme.*



- [ITU-T Q.2761] Recommendation ITU-T Q.2761 (1999), *Functional description of the B-ISDN user part (B-ISUP) of signalling system No.7.*
- [ITU-T Q.2761 A1] Recommendation ITU-T Q.2761 Amendment 1 (2002), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.2762] Recommendation ITU-T Q.2762 (1999), *General functions of messages and signals of the B-ISDN User Part (B-ISUP) of Signalling System No.7.*
- [ITU-T Q.2762 A1] Recommendation ITU-T Q.2762 Amendment 1 (2002), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.2763] Recommendation ITU-T Q.2763 (1999), *Signalling System No.7 B-ISDN User Part (B-ISUP) – Formats and codes.*
- [ITU-T Q.2763 A1] Recommendation ITU-T Q.2763 Amendment 1 (2002), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.2764] Recommendation ITU-T Q.2764 (1999), *Signalling System No.7 B-ISDN User Part (B-ISUP) – Basic call procedures.*
- [ITU-T Q.2764 A1] Recommendation ITU-T Q.2764 Amendment 1 (2002), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q.2931] Recommendation ITU-T Q.2931 (1995), *Digital Subscriber Signalling System No.2 – User-Network Interface (UNI) layer 3 specification for basic call/connection control.*
- [ITU-T Q.2931 A5] Recommendation ITU-T Q.2931 Amendment 5 (2006), *Support for the International Emergency Preference Scheme.*
- [ITU-T Q-Sup.47] ITU-T Q-series Recommendations – Supplement 47 (2003), *Emergency services for IMT-2000 networks – Requirements for harmonization and convergence.*
- [ITU-T Q-Sup.53] ITU-T Q-Series Recommendations – Supplement 53 (2005), *Signalling requirements to support the International Emergency Preference Scheme (IEPS).*
- [ITU-T Q-Sup.57] ITU-T Q-Series Recommendations – Supplement 57 (2008), *Signalling requirements to support the emergency telecommunications service (ETS) in IP networks.*
- [ITU-T Q-Sup.61] ITU-T Q-Series Recommendations – Supplement 61 (2010), *Evaluation of signalling protocols to support ITU-T Y.2171 admission control priority levels.*
- [ITU-T Y.1271] Recommendation ITU-T Y.1271 (2004), *Framework(s) on network requirements and capabilities to support emergency telecommunications over evolving circuit-switched and packet-switched networks.*
- [ITU-T Y.2006] Recommendation ITU-T Y.2006 (2008), *Description of capability set 1 of NGN release 1.*
- [ITU-T Y.2012] Recommendation ITU-T Y.2012 (2010), *Functional requirements and architecture of next generation networks.*
- [ITU-T Y.2111] Recommendation ITU-T Y.2111 (2008), *Resource and admission control functions in next generation networks.*
- [ITU-T Y.2171] Recommendation ITU-T Y.2171 (2006), *Admission control priority levels in Next Generation Networks.*

- [ITU-T Y.2172] Recommendation ITU-T Y.2172 (2007), *Service restoration priority levels in Next Generation Networks*.
- [ITU-T Y.2201] Recommendation ITU-T Y.2201 (2009), *Requirements and capabilities for ITU-T NGN*.
- [ITU-T Y.2205] Recommendation ITU-T Y.2205 (2011), *Next Generation Networks – Emergency telecommunications – Technical considerations*.
- [ITU-T Y.2262] Recommendation ITU-T Y.2262 (2006), *PSTN/ISDN emulation and simulation*.
- [ITU-T Y.2271] Recommendation ITU-T Y.2271 (2006), *Call server-based PSTN/ISDN emulation*.
- [ITU-T Y.2701] Recommendation ITU-T Y.2701 (2007), *Security requirements for NGN release 1*.
- [ITU-T Y.2702] Recommendation ITU-T Y.2702 (2008), *Authentication and authorization requirements for NGN release 1*.
- [ITU-T Y.2704] Recommendation ITU-T Y.2704 (2010), *Security mechanisms and procedures for NGN*.
- [ITU-T Y.2720] Recommendation ITU-T Y.2720 (2009), *NGN identity management framework*.
- [ITU-T Y.2721] Recommendation ITU-T Y.2721 (2010), *NGN identity management requirements and use cases*.
- [ITU-T Y.2722] Recommendation ITU-T Y.2722 (2011), *NGN identity management mechanisms*.
- [ITU-T Y-Sup.2] ITU-T Y-series Recommendations – Supplement 2 (2006), *Supplement on session/border control (S/BC) functions*.
- [ITU-T Y-Sup.12] ITU-T Y-series Recommendations – Supplement 12 (2010), *ITU-T Y.2720 – Supplement on NGN identity management mechanisms*.

2.1.2 Draft Recommendations and Supplements

- [ITU-T D E.TDR] Draft Recommendation ITU-T E.TDR, *Framework for the implementation of Telecommunications for Disaster Relief (TDR)*.
- [ITU-T D H.325] Draft Recommendation ITU-T H.325, *AMS: Advanced multimedia systems for next generation and other packet-switched networks*.

2.2 Other references

2.2.1 3GPP references

2.2.1.1 3GPP published references

- [3GPP TS 22.153] 3GPP TS 22.153 *Multimedia Priority Service*.
- [3GPP TR 22.950] 3GPP TR 22.950 *Priority Service Feasibility Study*.
- [3GPP TR 22.952] 3GPP TR 22.952 *Priority Service Guide*.

2.2.1.2 Draft 3GPP references

- [3GPP Draft TR 23.854] 3GPP D TR 23.854 *Enhancements for Multimedia Priority Service (MPS) (Release 10)*.

2.2.2 3GPP2 references

2.2.2.1 3GPP2 published references

[S.R0117-0 v1.0] *Multimedia Priority Service (MMPS) for MMD-based Networks – Stage 1 Requirements, 2006.*

2.2.3 ATIS references

2.2.3.1 ATIS published references

- [A-0300202] ATIS-0300202 – 2009, *Internetwork Operations – Guidelines for Network Management of the Public Telecommunications Networks under Disaster Conditions.*
- [A-1000005] ATIS-1000005 – 2005, *Service Description of ETS.*
- [A-1000006] ATIS-1000006 – 2005, *Signalling System No.7 (SS7) – Emergency Telecommunications Service (ETS).*
- [A-1000010] ATIS-1000010 – 2006, *Support of Emergency Telecommunications Service ETS in IP Network.*
- [A-1000011] ATIS-1000011 – 2006, *ETS Packet Priority for IP NNI Interfaces – Use of Existing DiffServ Per Hop Behaviors.*
- [A-1000020] ATIS-1000020 – 2007, *ETS Packet Priority for IP NNI Interfaces – Requirements for a Separate Expedited Forwarding Mechanism.*
- [A-1000023] ATIS-1000023 – 2008, *ETS Network Element Requirements for A NGN IMS Based Deployments.*

2.2.3.2 Draft ATIS references

- [DA ETS PH2] Draft Standard: *Support of Emergency Telecommunication Services in IP Networks Phase 2.*
- [DA ETS SR] Draft TR: *Service Requirements of ETS in NGN.*
- [DA ETS WAR] Draft Standard: *ETS Wireline Access Requirements.*
- [DA ETS NER] Draft Standards: *ETS Phase 2 Network Element Requirements.*

2.2.4 IETF references

2.2.4.1 IETF published references

- [IETF RFC 4412] IETF RFC 4412 (2006), *Communications Resource Priority for the Session Initiation Protocol (SIP).*
- [IETF RFC 4542] IETF RFC 4542 (2006) *Implementing an Emergency Telecommunications Service (ETS) for Real-Time Services in the Internet Protocol Suite.*
- [IETF RFC 5865] IETF RFC 5865 (2010), *A Differentiated Services Code Point (DSCP) for Capacity-Admitted Traffic.*

2.2.5 TMF references

2.2.5.1 Published TMF references

- [GB 917] TM FORUM (2010), Guidebook (GB) 917, *SLA Management Handbook – Release 3.0.*
- [GB 934] TM FORUM (2008), Guidebook GB 934, *Best Practice: Application Note to the SLA Management Handbook – Voice over IP – Release 2.0.*

2.2.6 TIA references

2.2.6.1 Published TIA references

[TIA-917] TIA 917 (2004), *Wireless Priority Service Enhancements for CDMA Systems*.

2.2.7 WiMAX references

2.2.7.1 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, *SPWG ETS Requirements*, Release 2.0, Nov. 2009.

[WFM Stage 2-a1] WiMAX Forum – WFM-T32-001-R016v01, *Network Architecture – Architecture Tenets, Reference Model and Reference Points, Base Specification, Release 1.6, ETS Stage 2 Specification (Section 7.14)*, Nov. 2010.

[WFM Stage 3-a1] WiMAX Forum – WFM-T33-001-R016v01, *Network Architecture – Detailed Protocols and Procedures, Base Specification, Release 1.6, ETS Stage 3 Specification (Section 4.19)*, Nov. 2010.

2.2.8 Broadband Forum references

[WT-134] *Policy Control Framework, BBF Working Text 134 (Draft)*, Revision 25, November 2010.

[WT-203] *Interworking between Next Generation Fixed and 3GPP Wireless Access, BBF Working Text 203 (Draft)*, Revision 6, October 2010.

3 Definitions

3.1 Terms defined elsewhere

This Supplement uses the following terms defined elsewhere:

3.1.1 emergency telecommunications service (ETS) [ITU-T E.107]: A national service providing priority telecommunications to the ETS authorized users in times of disaster and emergencies.

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

3.1.3 IPCablecom [ITU-T 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 [ITU-T 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 scheme (IEPS) [ITU-T 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, while this service is restricted either due to damage, congestion or faults, or any combination of these.

3.1.6 priority treatment capabilities [ITU-T 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.

4 Abbreviations and acronyms

This Supplement uses the following abbreviations and acronyms:

3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project2
ANI	Application-to-Network Interface
BICC	Bearer Independent Call Control
B-ISUP	Broadband ISUP
ENI	ETS National Implementation
ET	Emergency Telecommunications
ETS	Emergency Telecommunications Service
ETSMS	ETS Management Service
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
ISDN	Integrated Services Digital Network
ISUP	Integrated Services User Part
MLPP	Multi-Level Precedence and Pre-emption
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
S/BC	Session/Border Control
SIP	Session Initiation Protocol
SS7	Signalling System 7
TDR	Telecommunication for Disaster Relief
TM Forum	TeleManagement 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 labelled 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 will provide pointers to example service descriptions
 - Clause 7 will provide pointers to example functional requirements
 - Clause 8 will provide pointers to example capability documents
 - Clause 9 will provide a list of SDOs and other organizations that have or are producing ETS related standards
 - Appendix I provides a summary of the standards listed in clause 2 References
- 4) In clauses 6, 7 and 8 provision has been made for the identification of other SDO standards. In some instances, one or more standards 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 standards that have not been captured in this Supplement. In other instances, there are no other SDO standards identified. In these cases, the reader should understand that there may be applicable standards that have not been captured in this Supplement. In both cases, the respective clauses should be considered place holders which could be used to capture additional SDO standards in future issues of this Supplement.
- 5) In those cases where a pointer is made to other SDOs or other organization standards, it should be noted that the ITU-T has not reviewed the standards to determine their integrity or if the mapping is correct, takes no position as to the correctness of reference, and has not approved their contents.
- 6) An ITU-T 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. How ETS users are authenticated and authorized 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

This clause 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 clause may contain information other than service description related information.

6.2.1 ITU-T Recommendations

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

6.2.2 Other SDO standards

6.2.2.1 3GPP Specifications

[3GPP TR 22.952]	<i>Priority Service Guide</i>
Status:	Published

Addresses: Service description, call flows, and management aspects of priority service

6.2.2.2 ATIS Standards

[A-1000005] *Service Description 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 have a broader scope, but include functional requirements pertaining to ETS. In addition, some documents cited may include topics other than functional requirements.

7.2 Overall functional requirements

This clause captures pointers to standards that contain overall functional requirements

7.2.1 ITU-T

[ITU-T E.106] *International Emergency Preference Scheme (IEPS) for disaster relief operations*
Status: Published
Addresses: Overall functional requirements

[ITU-T D E.TDR] *Draft ITU-T Recommendation E.TDR, Framework for the implementation of Telecommunications for Disaster Relief (TDR)*
Status: Draft
Addresses: Overall functional requirements

[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 requirements

[ITU-T Y.2006] *Description of capability set 1 of NGN release 1*
Status: Published
Addresses: General network requirements

[ITU-T Y.2012] *Functional requirements and architecture of next generation networks*
Status: Published
Addresses: General functional requirements

[ITU-T Y-Sup.2] *Functional requirements and architecture of next generation networks – Session/border control (S/BC) functions*

	Status:	Published
	Addresses:	General Functional requirements
[ITU-T Y.2201]		<i>Requirements and capabilities for ITU-T NGN</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

7.2.2 Other SDOs

7.2.2.1 3GPP

[3GPP TS 22.153]		<i>Multimedia Priority Service</i>
	Status:	Published
	Addresses:	General functional requirements for priority service
[3GPP TR 22.950]		<i>Priority Service Feasibility Study</i>
	Status:	Published
	Addresses:	Feasibility study on priority service
[3GPP TR 22.952]		<i>Priority Service Guide</i>
	Status:	Published
	Addresses:	Service description, call flows, and management aspects of priority service
[3GPP D TR 23.854]		<i>Enhancements for Multimedia Priority Service (Release 10)</i>
	Status:	Draft
	Addresses:	Stage 2 functional requirements for priority service

7.2.2.2 3GPP2

[S.R0117-0 v1.0]		<i>Multimedia Priority Service (MMPS) for MMD-based Networks – Stage 1 Requirements</i>
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Status: Published
Addresses: General functional requirements for priority service

7.2.2.3 IETF

[IETF RFC 4542] *Implementing an Emergency Telecommunications Service (ETS) for Real-Time Services in the Internet Protocol Suite*

Status: Published
Addresses: General network functional requirements for IEPS support

7.2.2.4 TIA

[TIA-917] *Wireless Priority Service Enhancements for CDMA Systems*

Status: Published
Addresses: General functional requirements for priority service

7.2.2.5 WiMAX Forum

[WFM Stage 1-r1] *Service Provider Working Group (SPWG) ETS Phase 1 Requirements for Release 1.6, Feb. 2009.*

Status: Published
Addresses: WiMAX ETS use cases and requirements based on IEEE 802.16 2009 air interface

[WFM Stage 1-r2] *SPWG ETS Requirements, Release 2.0, Nov. 2009.*

Status: Published
Addresses: WiMAX ETS use cases and requirements based on IEEE 802.16m air interface

7.3 System and subsystem functional requirements

7.3.1 General

This 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