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MULTIMEDIA SIGNALS

IPCablecom

**Specification for priority in preferential
telecommunications over IPCablecom2
networks**

Recommendation ITU-T J.263



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Recommendation ITU-T J.263

Specification for priority in preferential telecommunications over IPCom2 networks

Summary

Recommendation ITU-T J.263 is one of a series of Recommendations to enable support for preferential telecommunication services over IPCom2 networks. It defines the specifications for priority for preferential telecommunication services over IPCom2 networks. These specifications satisfy the requirements defined in Recommendation ITU-T J.260. The essential aspects of preferential telecommunications over IPCom2 can be grouped into two areas: prioritization and authentication. This Recommendation provides specifications for prioritization only. Prioritization may be utilized for premium services and for emergency services in IPCom2 that may require preferential treatment (e.g., telecommunications for disaster relief and the emergency telecommunications service).

The implementation of priority and authentication is necessary for the support of preferential telecommunications services in IPCom networks. This Recommendation only covers technical aspects for achieving prioritized treatment in IPCom2 networks.

Source

Recommendation ITU-T J.263 was approved on 30 October 2009 by ITU-T Study Group 9 (2009-2012) under the WTSA Resolution 1 procedure.

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

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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Introduction

Emergency and disaster communications for authorized users plays a vital role in the health, safety, and welfare of people in all countries. The common thread to facilitate emergency/disaster operations is the utility of assured capabilities for user-friendly preferential telecommunication services that may be realized by technical solutions and/or administrative policy. The IPCablecom2 infrastructure offers an important resource for assured emergency/disaster telecommunications.

Emergency and disaster situations can impact telecommunication infrastructures. Typical impacts may include congestion overload and the need to re-deploy or extend communications capabilities beyond that covered by existing infrastructures. Even when telecommunications infrastructures are not damaged by these situations, demand for telecommunication resources soar during such events. Therefore, priority mechanisms are needed so that limited bandwidth resources can be allocated to authorized emergency workers during emergency and disaster situations.

Generally, when prioritized or preferential treatment of telecommunication capabilities are offered, users of the associated service or services will be authenticated and authorized. Whether authentication and authorization are required or not is a national decision. However, without authentication and authorization, preferential treatment capabilities may be subject to abuse by non-authorized individuals.

This Recommendation provides specifications stemming from the requirements of [ITU-T J.260] for mechanisms to provide priority in IPCablecom2 networks in support of preferential/prioritized treatment to services that need or benefit from such treatment.

Rec. ITU-T J.263 (10/2009)

Recommendation ITU-T J.263

Specification for priority in preferential telecommunications over IP-Cablecom2 networks

1 Scope

This Recommendation is one of a series of Recommendations to enable support for preferential telecommunication services over IP-Cablecom networks. These specifications do not apply to ordinary emergency calls such as people calling the police, the fire department, ambulances, etc.

Aspects of preferential telecommunications include provisions for authentication and priority (special handling). The objective of this Recommendation is to provide an initial set of priority specifications for preferential telecommunications within IP-Cablecom2 networks according to the framework described in [ITU-T J.261]. This Recommendation defines two options for introducing the priority header during signalling. This Recommendation defines specifications for capabilities which, when implemented, should help support preferential telecommunication services.

NOTE – Pre-emption specifications and authorization specifications are outside the scope of this Recommendation and are considered to be national matters.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T J.179] Recommendation ITU-T J.179 (2004), *IP-Cablecom support for multimedia*.
- [ITU-T J.260] Recommendation ITU-T J.260 (2005), *Requirements for preferential telecommunications over IP-Cablecom networks*.
- [ITU-T J.261] Recommendation ITU-T J.261 (2009), *Framework for implementing preferential telecommunications in IP-Cablecom and IP-Cablecom2 networks*.
- [IETF RFC 4412] IETF RFC 4412 (2006), *Communications Resource Priority for the Session Initiation Protocol (SIP)*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

- 3.1.1 assured capabilities** [ITU-T J.260]: Capabilities providing high confidence or certainty that critical telecommunications are available and perform reliably.
- 3.1.2 authentication** [ITU-T J.260]: The act or method used to verify a claimed identity.
- 3.1.3 authorization** [ITU-T J.260]: The act of determining if a particular privilege, such as access to telecommunications resources, can be granted to the presenter of a particular credential.

3.1.4 emergency situation [ITU-T J.260]: A situation, of serious nature, that develops suddenly and unexpectedly. Extensive immediate important efforts, facilitated by telecommunications, may be required to restore a state of normality to avoid further risk to people or property. If this situation escalates, it may become a crisis and/or disaster.

3.1.5 international emergency situation [ITU-T J.260]: An emergency situation, across international boundaries, that affects more than one country.

3.1.6 label [ITU-T J.260]: An identifier occurring within or attached to data elements. In the context of preferential telecommunications it is an indication of priority. This identifier can be used as a mapping mechanism between different network priority levels.

3.1.7 policy [ITU-T J.260]: Rules (or methods) for allocating telecommunications network resources among types of traffic that may be differentiated by labels.

3.1.8 preferential [ITU-T J.260]: A capability offering advantage over regular capabilities.

3.1.9 priority treatment capabilities [ITU-T J.260]: Capabilities that provide premium access to, and/or use of telecommunications network resources.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations:

CM	Cable Modem
CMTS	Cable Modem Termination System
COPS	Common Open Policy Service (defined in [b-IETF RFC 2748])
CSCF	Call Session Control Function
DSA	Dynamic Service Add
DSCP	Differentiated Services Code Point
MTA	Media Terminal Adapter
P-CSCF	Proxy Call Session Control Function
PCRF	Policy Control and Charging Rules Function
PIN	Personal Identification Number
PRACK	Provisional Response ACKnowledgement
PSTN	Public Switched Telephone Network
R-P	Resource Priority
RTP	Real-time Transport Protocol
UA	User Agent

5 Conventions

None.