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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

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 H-series Recommendations – Supplement 9

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Supplement 9 to ITU-T H-series Recommendations

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)

Summary

Supplement 9 to ITU-T H-series Recommendations defines the operation of ITU-T H.248.1, version 3, with ITU-T H.225, session initiation protocol (SIP) and integrated services digital network user part (ISUP) in support of emergency telecommunications service (ETS)/international emergency preference scheme (IEPS) priority information.

Source

Supplement 9 to ITU-T H-series Recommendations was agreed on 2 May 2008 by ITU-T Study Group 16 (2005-2008).

FOREWORD

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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.

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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)

1 Scope

This supplement defines the operation of [ITU-T H.248.1], version 3 with H.225 [ITU-T H.225.0], SIP [IETF RFC 4412], and ISUP [ITU-T Q.763] in support of emergency telecommunications service (ETS)/international emergency preference scheme (IEPS) priority information (priority indicator and priority level). ETS and IEPS are defined in [ITU-T E.107] and [ITU-T E.106], respectively. ETS and IEPS involve authority-to-authority communication.

The Emergency call indicator, as defined in [ITU-T H.248.1], is used for identification of emergency calls (i.e., individual-to-authority communication). [ITU-T H.248.1] adds the IEPS call indicator for identification of an ETS/IEPS call, allowing differentiation with emergency calls/sessions. For an ETS/IEPS call, the H.248.1 IEPS call indicator carries the priority indication and the H.248.1 Priority indicator carries the priority level.

NOTE – National, regional or local emergency and public safety services where an individual from general public is seeking assistance (i.e., individual-to-authority communication) are outside the scope of this supplement.

2 References

[ITU-T E.106] Recommendation ITU-T E.106 (2003), *International Emergency Preference Scheme (IEPS) for disaster relief operations*.
<http://www.itu.int/rec/T-REC-E.106>

[ITU-T E.107] Recommendation ITU-T E.107 (2007), *Emergency Telecommunications Service (ETS) and interconnection framework for national implementations of ETS*.
<http://www.itu.int/rec/T-REC-E.107>

[ITU-T H.225.0] Recommendation ITU-T H.225.0 (2006), *Call signalling protocols and media stream packetization for packet-based multimedia communication systems*.
<http://www.itu.int/rec/T-REC-H.225.0>

[ITU-T H.248.1] Recommendation ITU-T H.248.1 v3 (2005), *Gateway control protocol: Version 3*.
<http://www.itu.int/rec/T-REC-H.248.1>

[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*.
<http://www.itu.int/rec/T-REC-H.460.4>

[ITU-T Q.763] Recommendation ITU-T Q.763 (1999), *Signalling System No. 7 – ISDN User Part formats and codes*.
<http://www.itu.int/rec/T-REC-Q.763>

[IETF RFC 4412] IETF RFC 4412 (2006), *Communications Resource Priority for the Session Initiation Protocol (SIP)*.
<http://www.ietf.org/rfc/rfc4412.txt>

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].

3.1.2 international emergency preference scheme (IEPS): [ITU-T E.106].

3.2 Terms defined in this supplement

None.

4 Abbreviations and acronyms

This supplement uses the following abbreviations and acronyms:

ETS	Emergency Telecommunications Service
IEPS	International Emergency Preference Scheme
ISUP	Integrated Services digital network User Part
RPH	Resource Priority Header
SIP	Session Initiation Protocol
WPS	Wireless Priority Service

5 Mapping from ITU-T H.225, SIP, and ISUP to ITU-T H.248

This clause provides the details on the mapping between ITU-T H.248 and ITU-T H.225, SIP and ISUP in support of ETS/IEPS related information (priority indicator and priority level). Priority indicator and priority level are special markings in the call establishment request to provide priority treatment to an ETS/IEPS call.

NOTE – For an ETS/IEPS call, both the ITU-T H.248.1 IEPS call indicator and the ITU-T H.248.1 priority indicator must be present.

5.1 ITU-T H.248 and ITU-T H.225

5.1.1 Priority indicator

The "emergencyAuthorized" priorityValue in the ITU-T H.225.0 call priority designation parameter [ITU-T H.460.4] maps to the ITU-T H.248.1 IEPS call indicator [ITU-T H.248.1] to carry the priority indication for an ETS/IEPS call.

5.1.2 Priority level

The mapping between the priority level value carried in the "priorityExtension" in the ITU-T H.225.0 call priority designation parameter [ITU-T H.460.4] and priority level value carried in the ITU-T H.248.1 priority indicator [ITU-T H.248.1] in support of ETS/IEPS is shown in Table 1.

Table 1 – Mapping of priority level

ITU-T H.225.0 call priority designation (priorityExtension) value	ITU-T H.248.1 priority indicator value
0 (highest)	15
1	14
2	13
3	12
4 (lowest)	11
NOTE 1 – Values 0-10 of the ITU-T H.248.1 priority indicator are not used. NOTE 2 – If the priority level value carried in the "priorityExtension" in the ITU-T H.225.0 call priority designation parameter is not available, a default value between 11-15 can be used in the ITU-T H.248.1 priority indicator.	

5.2 ITU-T H.248 and SIP

5.2.1 Priority indicator

The SIP resource priority header (RPH) ETS namespace [IETF RFC 4412] maps to the ITU-T H.248.1 IEPS call indicator [ITU-T H.248.1] to carry the priority indication for an ETS/IEPS call.

5.2.2 Priority level

The mapping between the priority level value in the WPS namespace carried in the SIP resource priority header (RPH) [IETF RFC 4412] and priority level value carried in the ITU-T H.248.1 priority indicator [ITU-T H.248.1] in support of ETS/IEPS for national use is shown in Table 2.

Table 2 – Mapping of priority level

SIP RPH (priority value in WPS namespace) value	ITU-T H.248.1 priority indicator value
0 (highest)	15
1	14
2	13
3	12
4 (lowest)	11
NOTE 1 – Values 0-10 of the ITU-T H.248.1 priority indicator are not used. NOTE 2 – If the priority level value in the WPS namespace carried in the SIP RPH is not available, a default value between 11-15 can be used in the ITU-T H.248.1 priority indicator.	

5.3 ITU-T H.248 and ISUP

5.3.1 Priority indicator

The "IEPS call marking for preferential call set up" code in the ISUP calling party's category parameter [ITU-T Q.763] maps to the ITU-T H.248.1 IEPS call indicator [ITU-T H.248.1] to carry the priority indication for an ETS/IEPS call.

5.3.2 Priority level

The mapping between the priority level value carried in the "priority level subfield" in the ISUP IEPS call information parameter [ITU-T Q.763] and priority level value carried in the ITU-T H.248.1 priority indicator [ITU-T H.248.1] in support of ETS/IEPS is shown in Table 3.

Table 3 – Mapping of priority level

ISUP IEPS call information (priority level subfield) value	ITU-T H.248.1 priority indicator value
0 (highest)	15
1	14
2	13
3	12
4 (lowest)	11
NOTE 1 – Values 0-10 of the ITU-T H.248.1 priority indicator are not used. NOTE 2 – If the priority level value carried in the "priority level subfield" in the ISUP IEPS call information parameter is not available, a default value between 11-15 can be used in the ITU-T H.248.1 priority indicator.	

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