International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

H.225.0

Amendment 1

(01/2007)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Transmission multiplexing and synchronization

---

Call signalling protocols and media stream packetization for packet-based multimedia communication systems

Amendment 1: Updating connected party information after third party pause and re-routing and procedures related to echo control

ITU-T Recommendation H.225.0 (2006) – Amendment 1

ITU-T

International Telecommunication Union

ITU-T H-SERIES RECOMMENDATIONS

AUDIOVISUAL AND MULTIMEDIA SYSTEMS

CHARACTERISTICS OF VISUAL TELEPHONE SYSTEMS	H.100–H.199
INFRASTRUCTURE OF AUDIOVISUAL SERVICES	
General	H.200–H.219
Transmission multiplexing and synchronization	**H.220–H.229**
Systems aspects	H.230–H.239
Communication procedures	H.240–H.259
Coding of moving video	H.260–H.279
Related systems aspects	H.280–H.299
Systems and terminal equipment for audiovisual services	H.300–H.349
Directory services architecture for audiovisual and multimedia services	H.350–H.359
Quality of service architecture for audiovisual and multimedia services	H.360–H.369
Supplementary services for multimedia	H.450–H.499
MOBILITY AND COLLABORATION PROCEDURES	
Overview of Mobility and Collaboration, definitions, protocols and procedures	H.500–H.509
Mobility for H-Series multimedia systems and services	H.510–H.519
Mobile multimedia collaboration applications and services	H.520–H.529
Security for mobile multimedia systems and services	H.530–H.539
Security for mobile multimedia collaboration applications and services	H.540–H.549
Mobility interworking procedures	H.550–H.559
Mobile multimedia collaboration inter-working procedures	H.560–H.569
BROADBAND AND TRIPLE-PLAY MULTIMEDIA SERVICES	
Broadband multimedia services over VDSL	H.610–H.619

For further details, please refer to the list of ITU-T Recommendations.

ITU-T Recommendation H.225.0

Call signalling protocols and media stream packetization for packet-based multimedia communication systems

Amendment 1

Updating connected party information after third party pause and re-routing and procedures related to echo control

Summary

This Recommendation covers the technical requirements for narrow-band visual telephone services defined in H.200 and F.720-series Recommendations, in those situations where the transmission path includes one or more packet-based networks, each of which is configured and managed to provide a non-guaranteed Quality of Service (QoS) which is not equivalent to that of N-ISDN, such that additional protection or recovery mechanisms beyond those mandated by ITU-T Rec. H.320 need be provided in the terminals. It is noted that ITU-T Rec. H.322 addresses the use of some other LANs which are able to provide the underlying performance not assumed by the ITU-T Recs H.323 and H.225.0.

This Recommendation describes how audio, video, data, and control information on a packet-based network can be managed to provide conversational services in H.323 equipment.

Products claiming compliance with Version 6 of H.225.0 (this version) shall comply with all of the mandatory requirements of this Recommendation. Version 6 products can be identified by H.225.0 messages containing a **protocolIdentifier** value of {itu-t (0) recommendation (0) h (8) 2250 version (0) 6}.

~~This revision brings the following features:~~

~~1) Extension to H.225.0 AliasAddress to support digit codes 10 to 14.~~

~~2) Added the capability of a gatekeeper to assign an E.164 alias to an endpoint that does not register any by itself.~~

~~3) Added no-bandwidth error code in H.225.0 AdmissionRejectReason.~~

~~4) ASN.1 and text changes required for Assigned Gatekeeper procedures.~~

~~5) Changes to Clause 7.5 to add the requirement to re-start T310 timer when a PI value of 1 or 8 is received.~~

~~6) Changes to H.225.0 ASN to take care of H.361 changes.~~

~~7) Changes to ASN.1 definition and text to address the addition of 'language' field in LRQ and RRQ structures for new Rec. H.460.21 (ex H.460.MB).~~

~~8) Corrected a spelling mistake in the comments for unallocatedNumber in ASN.1 specification.~~

~~This revision also clarifies text or corrects errors previously identified in Implementors' Guides: added mapping tables for LocationRejectReason/AdmissionRejectReason and AccessRejectionReason/AdmissionRejectReason, clarified the description of the insertion of additionalSourceAddresses by a gatekeeper, and the text on the use of Facility message to carry h245Address, and corrected text describing length of UUIE field.~~ Amendment 1 adds the ability for intermediary systems that implement H.323 procedures to re-route calls to advise the transferred party and the transferred-to party of the alias addresses of the party to which the devices are communicating upon completion of the call transfer. This amendment also modifies the text related to echo control procedures to add clarity and improve the accuracy. The specific changes are:

– Amended 7.4.2 to contain a new Information Element in Table 18 for Connected Number and three new field definitions: connectedAddress, presentationIndicator, screeningIndicator.

– Amended ASN.1 in Annex H for Notify-UUIE to include these three new field definitions.

– Amended 8.6 to clarify and improve the accuracy of the echo control procedures.

Source

Amendment 1 to ITU-T Recommendation H.225.0 (2006) was approved on 13 January 2007 by ITU-T Study Group 16 (2005-2008) under the ITU-T Recommendation A.8 procedure.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. 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.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

© ITU 2007

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

CONTENTS

ITU-T Recommendation H.225.0

Call signalling protocols and media stream packetization for packet-based multimedia communication systems

Amendment 1

Updating connected party information after third party pause and re-routing and procedures related to echo control

Modifications introduced by this amendment are shown in revision marks. Unchanged text is replaced by ellipsis (…). Some parts of unchanged texts (*clause numbers, etc.*) *may be kept to indicate the correct insertion points.*

• • •

2 References

• • •

[41] ITU-T Recommendation Q.115.1 (2002), *Logic for the control of echo control devices and functions*.

• • •

7.4.2 Notify

• • •

Table 18/H.225.0 – Notify

Information element	H.225.0 status (M/F/O)	Length in H.225.0
Protocol discriminator	M	1
Call reference	M	3
Message type	M	1
Bearer capability	O (Note)	5-6
Notification indicator	M	3
Display	O	2-82
Connected Number	O	2-*
User-user	M	*
NOTE – Included to indicate a change of the bearer capability.		

• • •

connectedAddress – Contains the alias addresses for the connected party; the dialled digit string of the connected party is in the Connected Number IE and may be replicated in the **connectedAddress** field along with any other known aliases. This field and the Connected Number IE may be conveyed to endpoints by intermediary devices that perform call transfers using methods such as

those described in Clause 8.4.6/H.323. This field, and the Connected Number IE, may be sent to either the calling or called endpoint; "connected" in this context merely refers to the opposite endpoint in a call.

presentationIndicator – Indicates whether presentation of the **connectedAddress** should be allowed or restricted. If both **presentationIndicator** and the presentation indicator of the Connected Number IE are present and are in conflict, the presentation indicator of the Connected Number IE shall be used.

screeningIndicator – Indicates whether the **connectedAddress** was provided by the endpoint or network (gatekeeper), and whether the **connectedAddress** was screened by a gatekeeper. If both **screeningIndicator** and the screening indicator of the Connected Number IE are present and are in conflict, the screening indicator of the Connected Number IE shall be used.

...

8.6 Echo control

...

In the case of a decomposed gateway interfacing to an SS7 network, indications of the provision of echo cancellation are carried in the ISUP signalling message~~, as specified in ITU-T Rec. Q.115~~. The Echo Control Logic (ITU-T Rec. Q.115.1) in the H.323 media gateway controller (MGC) ~~can interpret~~taking into account the signalling information ~~and~~will request to either enable or disable the echo cancellation function at the media gateway (MG). ~~For speech calls the MGC can enable echo cancellation without deleterious effects on speech quality even if the GSTN has provided echo cancellation in the GSTN.~~

For voiceband data calls (modem calls) ~~that transit or terminate on an H.323 network, control~~tone disabling of echo cancellation is provided by the modems by in-band tones. ~~No out-of-band signalling is required by the GSTN network elements or by the MGCs.~~

...

Annex H

H.225.0 message syntax (ASN.1)

...

```
Notify-UUIE ::= SEQUENCE
{
     protocolIdentifier ProtocolIdentifier,
     callIdentifier     CallIdentifier,
     tokens             SEQUENCE OF ClearToken OPTIONAL,
     cryptoTokens       SEQUENCE OF CryptoH323Token OPTIONAL,
     ...,
     connectedAddress             SEQUENCE OF AliasAddress OPTIONAL,
     presentationIndicator        PresentationIndicator OPTIONAL,
     screeningIndicator           ScreeningIndicator OPTIONAL
}
```

...

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	**Audiovisual and multimedia systems**
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
Series Y	Global information infrastructure, Internet protocol aspects and next-generation networks
Series Z	Languages and general software aspects for telecommunication systems

Printed in Switzerland
Geneva, 2007