INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

H.460.13
(03/2004)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Supplementary services for multimedia

Called user release control within H.323 systems

ITU-T Recommendation H.460.13

ITU-T H-SERIES RECOMMENDATIONS

AUDIOVISUAL AND MULTIMEDIA SYSTEMS

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ITU-T Recommendation H.460.13

Called user release control within H.323 systems

Summary

This Recommendation specifies a mechanism that allows called H.323 Endpoints to signal that only the called user may release the call and that the release of the call by the calling user must be blocked. This is used for emergency call services where the release of calls to an emergency service operator must be under the control of the service operator. In addition, a calling H.323 Endpoint may signal that it is able to support called user release control capability.

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.

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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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Called user release control within H.323 systems

1 Scope

Called user release control capability allows a called H.323 Endpoint to control whether the calling H.323 Endpoint is able to initiate release of a connection. In addition, the calling H.323 Endpoint is able to indicate that it can support called user release control capability. Called user release control is invoked during call establishment and may be subsequently released during the active phase of the call. This capability is sometimes called connection hold.

Called user release control capability will allow calls to an emergency service operator to be under the control of the service operator such that the release of the call from the calling H.323 Endpoint is blocked.

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 Recommendation H.225.0 (2003), *Call signalling protocols and media stream packetization for packet-based multimedia communication systems*.

–   ITU-T Recommendation H.323 (2003), *Packet-based multimedia communications systems*.

3 Abbreviations

This Recommendation uses the following abbreviations:

ACF   Admission Confirmation

ARJ   Admission Reject

ARQ   Admission Request

CURC   Called User Release Control

DRQ   Disengage Request

LCF   Location Confirmation

LRJ   Location Reject

LRQ   Location Request

RAS   Registration, Admission and Status

4 Called user release control service description

Called user release control provides the ability for called H.323 Endpoints to signal that only the called user may release the call and that the release of the call by the calling user must be blocked at the calling H.323 Endpoint. The calling H.323 Endpoint shall be able to indicate to the called H.323 Endpoint that it can support called user release control capability.

Called user release control is invoked during call establishment when the called H.323 Endpoint signals a called user release control request in the backward direction. The called H.323 Endpoint may also release called user release control once the call has been established such that the calling H.323 Endpoint is then able to release the connection.

Called user release control shall only be invoked from a called endpoint that is used as an emergency service operator.

In addition, while the calling H.323 Endpoint is in the called user release control state, it shall be able to signal to the called H.323 Endpoint whether the calling user has attempted to disconnect (go on-hook) and then, subsequently, to re-connect (go off-hook). The called H.323 Endpoint shall also be able to send an alerting request to the calling H.323 Endpoint while in the called user release control state to deliver a ringing indication to the calling user.

5 Called user release control procedures

The called user release control procedures to be performed by H.323 Endpoints and intermediate nodes are described below.

5.1 Availability indication

The availability and invocation procedures are illustrated in Figure 1. A calling H.323 Endpoint shall indicate that it is able to support called user release control capability by including a called user release control availability indication (curcAvailable) in the call establishment (Setup) messages. A calling H.323 Endpoint shall indicate that it is not able to support called user release control capability by including a called user release control availability indication (curcNotAvailable) in the call establishment (Setup) messages. Intermediate signalling entities shall relay any received called user release control availability indication. The called H.323 Endpoint shall proceed as follows:

1) If the call request message contains a curcAvailable indication, it may invoke called user release control procedures.

2) If the call request message contains a curcNotAvailable indication, it may not invoke called user release control procedures.

3) If the call request message does not contain any called user release control availability indication, it may not invoke called user release control procedures.
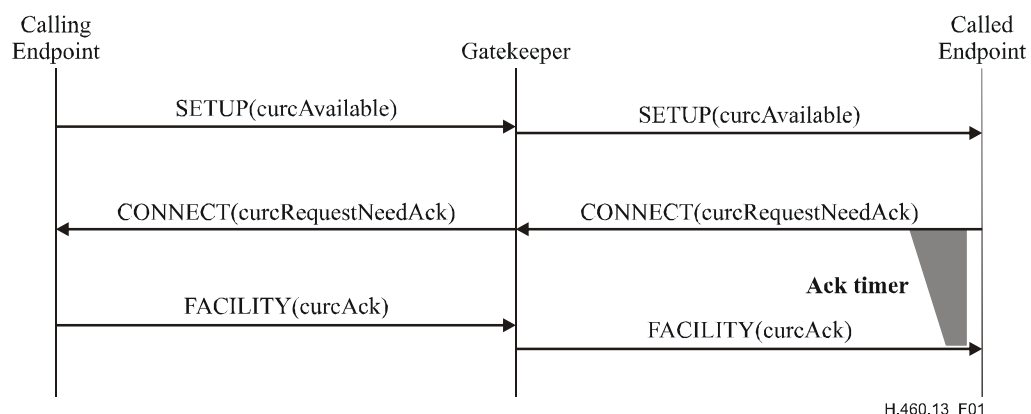

Figure 1/H.460.13 – Example availability and invocation procedures

5.2 Called user release control invocation

A called H.323 Endpoint shall invoke called user release control by including a called user release control request (curcRequest or curcRequestNeedAck) in backward messages (Alerting, Call Proceeding, Progress, Connect and Facility messages). If the called H.323 Endpoint sends a curcRequestNeedAck, it shall start a called user release control acknowledgement timer and await a called user release control acknowledgement (curcAck) from the calling H.323 Endpoint.

When a calling H.323 Endpoint receives a called user release control request (curcRequest or curcRequestNeedAck) in a backward message, it shall enter a called user release control state in which the calling user's ability to release a call is disabled. If the calling H.323 Endpoint receives a request to release the call (e.g., the calling user goes 'on-hook' at a H.323 terminal), the H.323 Endpoint shall not initiate release procedures.

If the calling H.323 Endpoint receives a called user release control request with acknowledgement required (curcRequestNeedAck), it shall send a called user release control acknowledgement (curcAck) in any H.225.0 call signalling message to the called H.323 Endpoint.

When the called H.323 Endpoint receives a curcAck, it shall stop the called user release control acknowledgement timer and consider the invocation as successful. Expiry of the called user release control acknowledgement timer shall be considered as an unsuccessful invocation of called user release control.

Intermediate signalling entities shall relay any received called user release control request and acknowledgement.

5.3 Called user release control release

Figure 2 illustrates the Called User Release Control Release Procedures. After successful invocation of called user release control, the called H.323 Endpoint may release the called user release control capability by sending a called user release control release (curcRelease) or a CURC release with acknowledgement required (curcReleaseNeedAck) in any H.225.0 call signalling message to the calling H.323 Endpoint.

If a called user release control has been invoked for a connection and the calling H.323 Endpoint receives a called user release control release (curcRelease or curcReleaseNeedAck), it shall re-enable the ability to release the call from the calling H.323 Endpoint. If the calling H.323 Endpoint receives a curcReleaseNeedAck, it shall send a called user release control release acknowledgement (curcReleaseAck) in any H.225.0 call signalling message to the called H.323 Endpoint.

When the called H.323 Endpoint receives a curcAck, it shall consider the called user release control release as successful.

Intermediate signalling entities shall relay any received called user release control release and release acknowledgement.
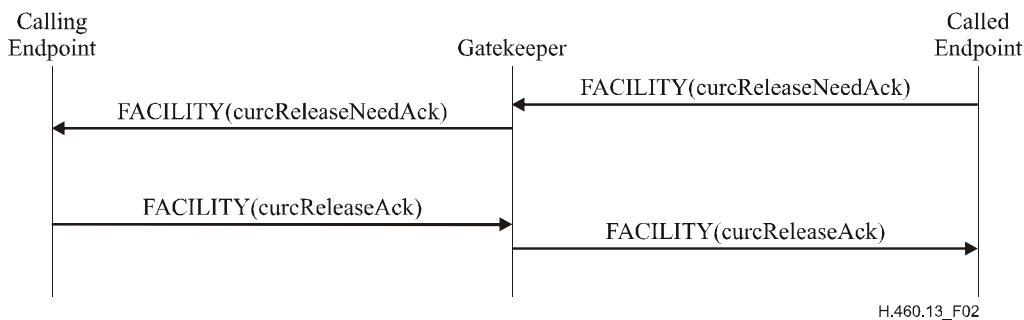

Figure 2/H.460.13 – Example called user release control release procedures

5.4 Call termination under called user release control

Figure 3 illustrates the disconnect and reconnect procedures. An intermediate entity may initiate normal call termination procedures regardless of the called user release control state.

If the calling user attempts to terminate the call (by going on-hook) while the called user release control is invoked, the calling H.323 Endpoint shall block release of the connection and shall send a user disconnect indication (disconnectInd) in any H.225.0 call signalling message to the called H.323 Endpoint. The called user shall be notified of the calling user's disconnect indication.

If the calling user reconnects to the call (by going off-hook) while the called user release control is invoked, the calling H.323 Endpoint shall send a user reconnect indication (reconnectInd) in any H.225.0 signalling message to the called H.323 Endpoint. The called user shall be notified of the calling user's reconnect indication.

If the called H.323 Endpoint has received a disconnectInd from the calling H.323 Endpoint, it may send an alerting request (alertRequest) to the calling H.323 Endpoint in any H.225.0 signalling message. When the calling H.323 Endpoint receives the alertRequest, it shall notify the calling user with a ringing tone.

Intermediate signalling entities shall relay any received disconnect and reconnect indications and alerting requests.
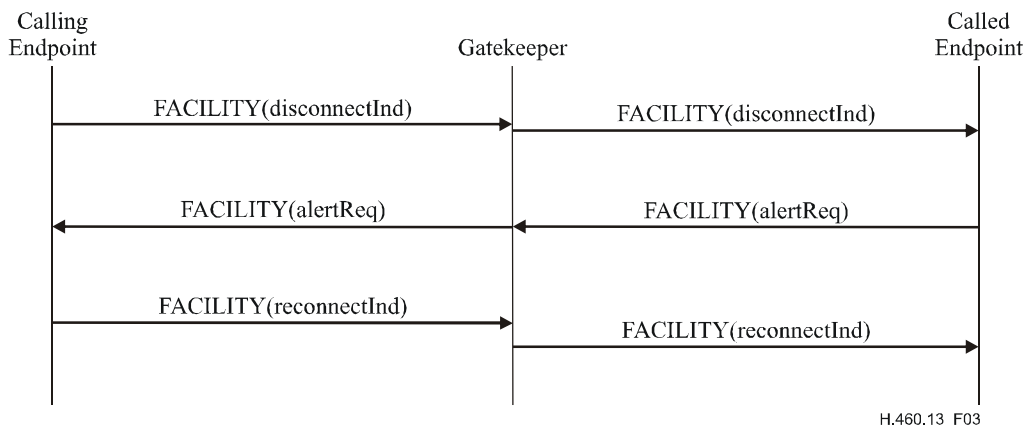

Figure 3/H.460.13 – Example disconnect and reconnect procedures

6 Called user release control indications

Called user release control indications are transported in the H.225.0 RAS and call signalling (Q.931) messages using the generic extensibility framework.

When sending the called user release control indications in the call signalling messages, they shall be coded in the **genericData** parameter in the H.225.0 H323-UU-PDU in the User-user Information Element.

When sending the called user release control indications in the RAS messages, they shall be coded in the **genericData** parameter in the request parameter of the H.225.0 **RasMessage**.

The GenericData parameter indicates the called user release control feature. Table 1 defines the called user release control feature.

Table 1/H.460.13 – Called user release control feature

Feature name:	Called User Release Control
Feature Description:	This feature allows a calling H.323 Endpoint to signal the ability to support release of a call from the called user only. In addition, this feature allows a called H.323 Endpoint to request the release of a call from the called user only.
Feature identifier type:	Standard
Feature identifier value:	13

6.1 Called user release control parameter

The called user release control parameter is used to transport called user release control indications. Table 2 defines the called user release control parameter.

Table 2/H.460.13 – Called user release control parameter

Parameter name:	Called User Release Control
Parameter description:	This is the data sent in H.225.0 RAS and Call Signalling messages to control called user release control.
Parameter identifier type:	Standard
Parameter identifier value:	1
Parameter type:	number8, values: 1 = curcAvailable 2 = curcNotAvailable 3 = curcRequest 4 = curcAck 5 = curcRelease 6 = curcReleaseAck 7 = curcRequestNeedAck 8 = curcReleaseNeedAck 9 = disconnectInd 10 = reconnectInd 11 = alertRequest
Parameter cardinality:	Once and only once

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