INTERNATIONAL TELECOMMUNICATION UNION

ITU-T H.460.12

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(03/2004)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Supplementary services for multimedia

Glare control indicator within H.323 systems

ITU-T Recommendation H.460.12

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ITU-T Recommendation H.460.12

Glare control indicator within H.323 systems

Summary

Glare, also known as dual seizure, is a condition in which two entities attempt to select the same circuit within the trunk group; in the context of this Recommendation, the two entities are a H.323 Gatekeeper and a PSTN switch. This Recommendation specifies a mechanism that allows an egress H.323-PSTN Gateway to resolve a glare condition that is detected on the Gateway when circuit selection is done on the Gatekeeper. The Gatekeeper delivers a Glare Control Indicator to the Gateway to inform the Gateway on how to deal with the glare condition.

Source

ITU-T Recommendation H.460.12 was approved on 15 March 2004 by ITU-T Study Group 16 (2001-2004) 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.

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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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ITU-T Recommendation H.460.12

Glare control indicator within H.323 systems

1 Scope

This Recommendation specifies a mechanism that allows an egress H.323-PSTN Gateway to resolve a glare condition (also known as "dual seizure") that is detected on the Gateway when circuit selection is done on the Gatekeeper. The Gatekeeper delivers a Glare Control Indicator to the Gateway to inform the Gateway on how to deal with the glare condition.

For bidirectional (both-way) trunk groups between a H.323-PSTN Gateway and a PSTN switch, various circuit selection algorithms are defined in ITU-T Rec. Q.764 to minimize glare when both the Gateway and the PSTN switch attempt to select the same circuit within the trunk group.

In addition, various algorithms may be used to specify the action to be taken to resolve the glare condition. For example, if glare occurs on an even-numbered circuit within a trunk group, the outgoing call (from the H.323 network to the PSTN) may be allowed to proceed but the incoming call must be re-attempted on another available circuit. This glare resolution algorithm is normally configured along with the circuit selection algorithm on each device.

ITU-T Rec. H.323 provides the ability for a Gatekeeper to select the circuit within a trunk group to be used for a call from the H.323 network to a PSTN network through a H.323-PSTN Gateway. The 'group' field in the H.323 **destinationCircuitId** structure may be used to transport the trunk group identifier and the 'member' field in the same structure may be used to transport the circuit identifier from the Gatekeeper to the Gateway. This Recommendation provides a means for the Gatekeeper to also control how a glare condition may be resolved on a Gateway.

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*.

– ITU-T Recommendation H.460.8 (2002), *Querying for alternate routes within H.323 systems*.

– ITU-T Recommendation Q.764 (1999), *Signalling system No. 7 – ISDN user part signalling procedures*.

3 Glare Control Indicator

The Glare Control Indicator determines the action the Gateway should take if it detects glare for the circuit in question. The Glare Control Indicator has two values:

1) Outgoing call from the H.323 network to the PSTN has precedence.

2) Incoming call from the PSTN to the H.323 network has precedence.

3.1 Delivery of Glare Control Indicator

The Gatekeeper includes a Glare Control Indicator along with the circuit selection information (**destinationCircuitId**) that it sends to the Gateway. In the case of direct routed call signalling, the Gatekeeper shall send the Glare Control Indicator with the **destinationCircuitId** in the ACF message that it sends to the calling H.323 Endpoint which shall forward the Glare Control Indicator in the Setup message that it sends to the egress Gateway. In the case of Gatekeeper routed call signalling, the Gatekeeper shall send the Glare Control Indicator with the **destinationCircuitId** in the Setup that it sends to the H.323-PSTN Gateway.

3.2 Glare resolution at Gateway

If the Glare Control Indicator indicates the outgoing call has precedence, then the Gateway will proceed with the outgoing call from the H.323 network to the PSTN and release the incoming call from the PSTN.

If the Glare Control Indicator indicates the incoming call has precedence, the Gateway will allow the incoming call from the PSTN to proceed and send another ARQ to the Gatekeeper, so that it can select another available circuit for the outgoing call. The Gateway will use the ARQ ReQuery procedures defined in ITU-T Rec. H.460.8 to inform the Gatekeeper that another circuit must be selected. The Gateway shall send a subsequent ARQ message with an incremented query count and a **CallTerminationCause** structure containing the cause IE set to Q.850 value 'requested circuit/channel not available'. When the Gatekeeper receives a subsequent ARQ with an incremented query count and a **CallTerminationCause** structure containing the cause value set to Q.850 value 'requested circuit/channel not available', it shall select another circuit for the outgoing call and send an ACF back to the Gateway.

3.3 Generic Extensibility Framework

A Gatekeeper includes the Glare Control Indicator with the **destinationCircuitId** in H.225.0 RAS and call signalling messages. The Glare Control Indicator parameter shall be transported using the generic extensibility framework as described below.

When sending the Glare Control Indicator parameter in the call signalling messages, the Glare Control Indicator shall be coded in the **genericData** parameter in the H.225.0 H323-UU-PDU in the User-User Information Element.

When sending the Glare Control Indicator parameter in the RAS messages, the Glare Control Indicator shall be coded in the **genericData** parameter in the request parameter of the H.225.0 **RasMessage**.

The **genericData** parameter indicates the Glare Control Indicator feature and contains a Glare Control Indicator parameter.

Table 1 defines the Glare Control Indicator feature.

Table 1/H.460.12 – Glare Control Indicator from a Gatekeeper to a Gateway

Feature name:	Glare Control Indicator
Feature description:	This feature allows an H.323 Gatekeeper to control glare resolution on a H.323-PSTN Gateway.
Feature identifier type:	Standard
Feature identifier value:	12

4 Glare Control Indicator parameter

Table 2 defines the Glare Control Indicator parameter.

Table 2/H.460.12 – Glare Control Indicator parameter

Parameter name:	Glare Control Indicator Parameter
Parameter description:	This is the data sent in H.225.0 RAS and Call Signalling messages to control the glare condition.
Parameter identifier type:	Standard
Parameter identifier value:	1
Parameter type:	number8, values: 1 = Outgoing call to PSTN has precedence. 2 = Incoming call from PSTN has precedence.
Parameter cardinality:	Once and only once

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Printed in Switzerland
Geneva, 2004