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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication procedures

Gateway control protocol: Semi-permanent connection handling package

ITU-T Recommendation H.248.21

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Gateway control protocol: Semi-permanent connection handling package

Summary

This Recommendation describes a package to enable the media gateway controller to indicate to the media gateway that terminations and the connection between the "semi-permanent" marked terminations shall be treated as semi-permanent. Semi-permanent connections are defined and used by ITU-T Recs Q.931 and X.31.

FOREWORD

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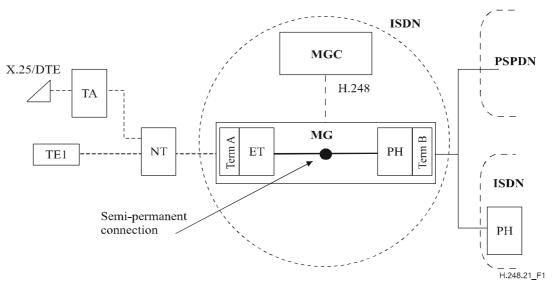
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1 Scope

Semi-permanent connections are defined in ITU-T Recs Q.931 and X.31. ITU-T Rec. X.31 provides reference configurations for how semi-permanent connections are used. This Recommendation describes a package to enable the media gateway controller to indicate that terminations related to the ET, PH and/or AU devices and the connection between them shall be subject to semi-permanent handling procedures by the MG.

Figure 1 illustrates how a semi-permanent connection is used in a network. No call control signalling is shown since semi-permanent connections are initiated by a man-machine interface.

NOTE 1 – This figure is only an example of many possible configurations and is included as an aid in describing how a semi-permanent connection is used.
NOTE 2 – This diagram does not show call control signalling.
NOTE 3 – Term A and Term B represent the terminations that are associated with ET and PH functions.

Figure 1/H.248.21 – Semi-permanent connection use

This Recommendation describes the use of semi-permanent connections with ISDN networks and covers both types of semi-permanent connections defined in ITU-T Rec. Q.931:

1)   Physical layer semi-permanently established between the terminal and the PH/AU;

2)   X.25 data link and physical layers semi-permanently established between the terminal and the PH/AU.

The semi-permanent connection handling package may be used whenever the behaviour described in the procedures section of the package is required.

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.248.1 (2002), *Gateway control protocol: Version 2.*

– ITU-T Recommendation Q.931 (1998), *ISDN user-network interface layer 3 specification for basic call control.*

– ITU-T Recommendation X.25 (1996), *Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit.*

– ITU-T Recommendation X.31 (1995), *Support of packet mode terminal equipment by an ISDN.*

3 Terms and definitions

None.

4 Abbreviations

This Recommendation uses the following abbreviations:

AU   Access Unit

DTE   Data Terminal Equipment

ET   Exchange Termination

ISDN   Integrated Services Digital Network

MG   Media Gateway

MGC   Media Gateway Controller

NT   Network Termination

PH   Packet Handler

PSPDN   Packet Switched Public Data Network

TA   Terminal Adaptor

TE   Terminal Equipment

5 Semi-permanent connection package

Package Name: Semi-permanent connection handling

PackageID: semper, 0x006a

Description:

> This package defines a property and procedures that are used on semi-permanently marked terminations.

Version: 1

Designed to be extended only: No

Extends: None

5.1   Properties

5.1.1   Property Name: Activate semi-permanent connection

PropertyID: act, 0x0001

Description:

> The value of this property indicates if the termination is requested to be part of a semi-permanent connection.

Type: Boolean

Possible values: "on" (TRUE)   Receive semi-permanent handling
                     "off" (FALSE) Semi-permanent handling not utilized [Default]

Defined in: Termination State Descriptor

Characteristics: Read/Write

5.2   Events

None.

5.3   Signals

None.

5.4   Statistics

None.

5.5   Procedures

5.5.1   Semi-permanent termination establishment/modification

When the MGC determines (via man-machine command or other provisioning) that a semi-permanent connection is required, an Add/Modify/Move command will be sent to the appropriate termination(s) with the *semper/act* property set to *"on"* (semi-permanent handling). The request shall contain an explicit TerminationID (i.e., no wildcarding, except for CHOOSE in an Add command) for the termination that MG will initiate the appropriate semi-permanent handling on.

5.5.2   Semi-permanent termination behaviour

If a MGC issues commands using wildcarded TerminationID (with "*" or "ALL"), no action shall be taken on termination(s) that have the *semper/act* property set to "on". If the wildcarded TerminationID only matches TerminationIDs with the *semper/act* property set to "on", then the MG shall return error 431, "No TerminationID matched a wildcard".

For example: When a global Subtract (ContextId – ALL, TerminationId – ALL) is issued from the MGC, existing terminations with semi-permanent handling requested will not be affected.

This behaviour applies for all commands, apart from AuditValue and AuditCapabilities.

An individual AuditValue on the *semper/act* property explicitly identifies a semi-permanent termination even if the ContextId and/or the TerminationID are wildcarded. This allows the MGC to determine which terminations are semi-permanently marked even if it has suffered a failure and has lost state information without auditing every termination on the MG.

NOTE – Individual auditing is not supported by ITU-T Rec. H.248.1 Version 1 (03/2002).

5.5.3 Semi-permanent termination removal

When a MGC requires a semi-permanent termination/connection to be removed, a Subtract command will be sent with the appropriate TerminationID(s) explicitly specified.

If the MGC requires that semi-permanent termination/connection handling be stopped, then a Modify or Move command explicitly identifying the appropriate TerminationID shall be issued with *semper/act = off*.

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