INTERNATIONAL TELECOMMUNICATION UNION

ITU-T H.248.10

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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication procedures

Gateway control protocol: Media gateway resource congestion handling package

ITU-T Recommendation H.248.10

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ITU-T Recommendation H.248.10

Gateway control protocol: Media gateway resource congestion handling package

Summary

This Recommendation describes a package for Media Gateway Resource Congestion Handling for use with the H.248.1 Gateway Control Protocol. As defined in ITU-T Rec. H.248.1, a "package" is an extension to H.248.1 that supports specific behaviour.

NOTE – This Recommendation has been renumbered. It was formerly known as ITU-T Rec. H.248, Annex M2.

Source

ITU-T Recommendation H.248.10 was prepared by ITU-T Study Group 16 (2001-2004) and approved under the WTSA Resolution 1 procedure on 29 July 2001.

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.

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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.

CONTENTS

ITU-T Recommendation H.248.10

Gateway control protocol: Media gateway resource congestion handling package

1 Scope

This Recommendation defines a package that extends the applicability of the H.248.1 Gateway Control Protocol Recommendation. Specifically, this Recommendation describes a package for the H.248.1 gateway protocol related to Media Gateway Resource Congestion Handling. With the root termination implementing this package, a gateway is expected to report congestion events to a Media Gateway Controller (MGC).

2 Definitions

See ITU-T Rec. H.248.1.

3 References

See ITU-T Rec. H.248.1.

4 Congestion Handling package

Package Name: CHP

PackageID: chp, 0x0029

Description:

The package makes it possible for the MG to control its load.

The events in this package may be provisioned in the MG.

The event in this package may only be applied to the Root termination.

Version: 1

Extends: None

4.1 Properties

NA

4.2 Events

4.2.1 MGCongestion

Event name: MGCon

EventID: mgcon, (0x0001)

Description:

This event occurs when the MG requires that the MGC start or finish load reduction towards the MG or to adjust the Load Reduction Percentage. The event is ordered by the MGC or provisioned.

EventsDescriptor Parameters: None

ObservedEventsDescriptor Parameters

Parameter Name: Reduction

ParameterID: reduction, (0x0001)

Type: Integer

Possible Values: 0-100

It represents a percentage of the load that the MGC is requested to block (reject or deflect).

A value of 0 means that no reduction shall be applied.

A value of 100 means that the MGC shall block all load towards the MG that is possible to block.

5 Signals

NA

6 Statistics

NA

7 Procedures

When the MGC receives a load reduction notification it tries to reduce the processing loads that it creates on the MG according to the parameter value. For example, if the Reduction Percentage is 20 then the MGC shall try to block 20% of the load that it would otherwise (without any reduction) have generated on the MG.

It is left to the implementation to decide how the MGC shall translate a load reduction of 20% to a certain concrete action.

One possible implementation is to reject (or redirect) a percentage of new calls based on 20% of the current calls in the MG. Another possibility is to block 20% of the commands that create new contexts.

The MGC is free to support priorities by blocking low priority calls (originating normal calls) in the first place when load reduction is requested.

If calls of different priority generate very different loads on the MG, and load reduction is implemented by rejecting a certain fraction of the calls, then it is recommended to give each call a weight proportional to the average load it is expected to create.

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