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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS
Infrastructure of audiovisual services – Communication
procedures

Gateway control protocol: Inactivity timer package

Recommendation ITU-T H.248.14

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, TRIPLE-PLAY AND ADVANCED MULTIMEDIA SERVICES	
Broadband multimedia services over VDSL	H.610–H.619
Advanced multimedia services and applications	H.620–H.629
IPTV MULTIMEDIA SERVICES AND APPLICATIONS FOR IPTV	
General aspects	H.700–H.719
IPTV terminal devices	H.720–H.729
IPTV middleware	H.730–H.739
IPTV application event handling	H.740–H.749
IPTV metadata	H.750–H.759
IPTV multimedia application frameworks	H.760–H.769
IPTV service discovery up to consumption	H.770–H.779

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

Recommendation ITU-T H.248.14

Gateway control protocol: Inactivity timer package

Summary

Recommendation ITU-T H.248.14 provides a package that allows a media gateway to detect the failure of its active media gateway controller through message inactivity.

This revision provides the following clarifications for the inactivity timer package version 1:

- the event inactivity timeout (*ito*) may be provisioned;
- the event parameter maximum inactivity time (*mit*) is an *optional* element;
- the event parameter maximum inactivity time (*mit*) has a *default* value, which may be *provisioned*.

This revision also provides an example setting for the inactivity timer.

Source

Recommendation ITU-T H.248.14 was approved on 16 March 2009 by ITU-T Study Group 16 (2009-2012) under Recommendation ITU-T A.8 procedures.

FOREWORD

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CONTENTS

	Page
1 Scope	1
2 References.....	1
3 Definitions	1
3.1 Terms defined elsewhere	1
3.2 Terms defined in this Recommendation.....	1
4 Abbreviations and acronyms	1
5 Conventions	2
6 Inactivity timer package	2
6.1 Properties.....	2
6.2 Events	2
6.3 Signals	2
6.4 Statistics.....	3
6.5 Error codes.....	3
6.6 Procedures	3

Recommendation ITU-T H.248.14

Gateway control protocol: Inactivity timer package

1 Scope

This package contains an event that can be implemented by a media gateway controller (MGC) and by a media gateway (MG) on its root termination. The purpose of the event is to allow the MG to detect periods of silence of H.248 messaging from the MGC. Once the period of silence exceeds the threshold provided in the event, the MGC is notified.

This package allows MGs to:

- 1) detect *MGC failure*; or/and
- 2) detect *failures or short-term interruptions of the H.248 transport connection* (see also Note 1 in clause F.3.6 of [ITU-T H.248.1])

through H.248 message silence.

This revision provides the following clarifications for the inactivity timer package version 1:

- the event inactivity timeout (*ito*) may be provisioned;
- the event parameter maximum inactivity time (*mit*) is an *optional* element;
- the event parameter maximum inactivity time (*mit*) has a *default* value, which may be *provisioned*.

This revision also provides an example setting for the inactivity timer.

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 H.248.1] Recommendation ITU-T H.248.1 (2005), *Gateway control protocol: Version 3*, including its Amendment 1 (2008), *Corrections and clarifications*.

3 Definitions

3.1 Terms defined elsewhere

See [ITU-T H.248.1].

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations:

ALF Application Level Framing
MG Media Gateway

5 Conventions

None.

6 Inactivity timer package

Package Name: Inactivity timer package

Package ID: it (0x0045)

Description: This package provides support for MGs detecting the failure of MGCs by H.248 message silence and is only used on the ROOT termination.

Version: 1

Extends: None

6.1 Properties

None.

6.2 Events

6.2.1 Inactivity timeout

Event Name: Inactivity timeout

Event ID: ito (0x0001)

Description: Detects that inactivity timer has expired. A *mit* value of 0 disables inactivity timing.

6.2.1.1 EventDescriptor Parameters

6.2.1.1.1 Maximum inactivity time

Parameter Name: Maximum inactivity time

Parameter ID: mit (0x0001)

Description: The *mit* parameter specifies the period of H.248 messaging silence, which the MG applies to the process of monitoring incoming H.248 messages. Whenever the period of silence is exceeded, the MG generates a Notify Request with the *it/ito* ObservedEvent.

Type: Integer (in 10 millisecond steps)

Optional: Yes (if default is provisioned)

Possible values: 0..65535 (0, 10 ms, 20 ms, ... , to 655.35 seconds)

Default: Provisioned

6.2.1.2 ObservedEventsDescriptor Parameters

None.

6.3 Signals

None.

6.4 Statistics

None.

6.5 Error codes

None.

6.6 Procedures

6.6.1 Detection of *it* package support

An MGC that supports this package may detect whether or not an MG supports the package by auditing an MG to determine the presence of the package.

6.6.2 MGC-polling by MG (using the *it* package)

An MGC may choose to set the inactivity timer event containing the maximum silence period or "maximum inactivity time" on the ROOT termination. The MGC should then ensure that the time between messages sent to that MG never exceeds this period. The MGC ensures this by sending any message as a test or keep-alive message (such as the empty Audit of ROOT) whenever no other message is needed within the period.

6.6.3 MG-polling by MGC (using the audit mechanism)

MGCs may test MGs using a test message (for example, an AuditValue command with an empty AuditDescriptor) without implementing this package or to test MGs that do not implement the package.

6.6.4 Procedural details for the *it* package

An MG that supports this package and receives the event will monitor incoming messages for periods of silence exceeding the maximum inactivity timer value. On the detection of the silence period, a Notify with the observed event is generated.

NOTE – The detection of the silence period may be done by starting a timer with the specified timeout that resets to zero on the arrival of each message from MGC and reaches timeout only after the indicated inactivity period. Another approach for the MG would be to keep a "message received" Boolean flag, which should be associated to a normal timer and set to 1 when each message is received. When the timer expires and the Boolean flag is still 0, the MG would send the event Notice; if the Boolean flag is 1, the MG would set the Boolean flag to 0 and restart the timer.

If the MGC has failed, the event will not receive a reply. If no reply is received, the MG will consider the MGC to have failed and will follow the procedures of clause 11.5 in [ITU-T H.248.1].

6.6.5 Provisioning of event *it/ito*

The inactivity timeout event should be provisioned in both the MGC and MG in order to minimize H.248 signalling load at MGC restarts in networks where there are large numbers of MGs that implement the inactivity timer package. In addition, such a configuration allows the MG to detect an MGC failure occurring immediately after the registration process (i.e., before the MGC had a chance to explicitly modify the event).

6.6.5.1 Provisioning example

The default value of parameter *mit* may be aligned with parameters of the ALF (application level framing) procedures when H.248 signalling uses IP transport according to Annex D of [ITU-T H.248.1]. In this case, it is recommended to provision a default value greater than ALF timer *T-MAX* setting (e.g., *mit* equal to 110% of *T-MAX*) in order to suspend possible *ito* event notifications before timer *T-MAX* expires.

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Series A	Organization of the work of ITU-T
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Series H	Audiovisual and multimedia systems
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