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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication
procedures

Gateway control protocol: Basic CAS packages

Recommendation ITU-T H.248.25



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Recommendation ITU-T H.248.25

Gateway control protocol: Basic CAS packages

Summary

Recommendation ITU-T H.248.25 defines basic channel associated signalling (CAS) and R1 packages and supplemental CAS packages that, in association with the ITU-T H.248 Protocol, can be used to control a media gateway (MG) from an external media gateway controller (MGC).

This revision adds a new read-only property containing the current CAS state of the termination, to allow the MGC to resynchronize itself in the event it loses track of this state.

This revision incorporates an update to the optionality of the "Pulse off" and "Pulse On" events.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.248.25	2003-07-14	16
1.1	ITU-T H.248.25 (2003) Cor. 1	2004-03-15	16
2.0	ITU-T H.248.25	2007-01-13	16
3.0	ITU-T H.248.25	2013-03-16	16

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.

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Recommendation ITU-T H.248.25

Gateway control protocol: Basic CAS packages

1 Scope

The basic channel associated signalling (CAS) package provides a baseline package. Basic CAS defines abstract events and signals that are common to all CAS protocols. For some protocols, basic CAS provides all of the functionality required to satisfy the line interface, such as North American single-stage dialling applications or R1 signalling. For other protocols, basic CAS provides a baseline package for which additional protocol specific extension packages can be defined. Further line signals and events required for international signalling protocols can be provided through extension packages.

The basic CAS addressing package extends the basic CAS package to add the signals and events required for basic addressing. This would satisfy addressing functionality for many protocols such as North American single-stage dialling applications or R1 signalling.

The robbed bit signalling (RBS) package, operator services and emergency services package and the operator services extension package can be used to provide functionality required in addition to the basic CAS package.

The support of these packages is optional.

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 (2013), *Gateway Control Protocol: Version 3*.

3 Definitions

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

CAS	Channel Associated Signalling
MG	Media Gateway
MGC	Media Gateway Controller
RBS	Robbed Bit Signalling
TS	Time Slot



5 Assumptions and partitioning

The termination the MGC addresses is the channel. With TS16, the MG associates the line signal with the appropriate channel.

For some applications, the basic CAS package provides all of the functionality needed to satisfy the interface. In other cases (e.g., operator services), additional supplementary packages may be needed to meet the complete interface requirements. This Recommendation includes three supplementary packages which may be used to provide additional functionality required by some interfaces:

- The robbed bit signalling package provides basic RBS supervisory signalling that is required in addition to the basic CAS package.
- The operator services and emergency services package provides supervisory signalling that is specific to North American operator services and emergency services.
- The operator services extension package provides supervisory signalling that is specific to North American operator services and is required in addition to the operator services and emergency services package.

6 Basic CAS package

Package name:	Basic CAS package
Package ID:	bcas (0x003f)
Description:	This package provides basic event and signal handling for terminations that support CAS signalling.
Version:	2
Extends:	None

6.1 Properties

6.1.1 CAS near-end line state

Property name:	CAS near-end line state	
Property ID:	nels (0x0002)	
Description:	Specifies the current CAS near-end line state of the termination by reflecting the last applied line signal.	
Type:	Enumeration	
Possible values:	Idle (0x01)	The CAS termination near-end is in the idle state
	Seize (0x02)	The CAS termination near-end is in the seize state
	SeizeAck (0x03)	The CAS termination near-end is in the seize acknowledge state
	Answer (0x04)	The CAS termination near-end is in the answer state
Default:	The last applied line signal. If no line signal has been applied by the MGC, Idle.	
Defined in:	TerminationState Descriptor	
Characteristics:	ReadOnly	

6.1.2 CAS far-end line state

Property name:	CAS far-end line state		
Property ID:	fels (0x0003)		
Description:	Specifies the current CAS far-end line state of the termination by reflecting the last detected line event.		
Type:	Enumeration		
Possible values:	Idle (0x01)	The CAS termination far-end is in the idle state	
	Seize (0x02)	The CAS termination far-end is in the seize state	
	SeizeAck (0x03)	The CAS termination far-end is in the seize acknowledge state	
	Answer (0x04)	The CAS termination far-end is in the answer state	
Default:	The last detected line event. If no line event has been detected by the MG, Idle.		
Defined In:	TerminationState Descriptor		
Characteristics:	ReadOnly		

6.2 Events

6.2.1 Seizure

Event name:	Seizure
Event ID:	sz (0x0001)
Description:	Seizure event shall be reported when an incoming "Seizing" signal occurs on the termination. The event is reported by the MG if either the timed transition to this line signal is detected or the line signal already exists. The line signal condition against which the "Seizing" signal is verified is provisioned in the MG.

6.2.1.1 EventsDescriptor parameters

None.

6.2.1.2 ObservedEventsDescriptor parameters

None.

6.2.2 Seize acknowledge

Event name:	Seize acknowledge
Event ID:	sza (0x0002)
Description:	The Seize Acknowledge event shall be reported when an incoming "Seize Acknowledge" signal occurs on the termination. This event also acts as a start dial notification, indicating that out-pulsing should begin. For R1 interfaces, the event is reported when the "start dialling"/"proceed to send" signal occurs. For wink start trunks, the "Seize Acknowledge" event is reported when the trailing edge of the wink-start signal occurs. For immediate start trunks, the "Seize Acknowledge" event is provided by the media gateway as an immediate response to the request for that event from the MGC.

6.2.2.1 EventsDescriptor parameters

None.

6.2.2.2 ObservedEventsDescriptor parameters

None.

6.2.3 Answer

Event name:	Answer
Event ID:	ans (0x0003)
Description:	The Answer event shall be reported when an incoming line signal "Answer" occurs on the termination. The event is reported by the MG if either the timed transition to this line signal is detected or the line signal already exists. The line signal condition against which the "Answer" signal is verified is provisioned in the MG.

6.2.3.1 EventsDescriptor parameters

None.

6.2.3.2 ObservedEventsDescriptor parameters

None.

6.2.4 Idle

Event name:	Idle
Event ID:	idle (0x0004)
Description:	This event applies to an incoming interface and is reported when a "Clear" or "Idle" line signal occurs on the termination. For an R1 interface, the Idle event shall be reported when an "Idle" line signal occurs on the termination. For robbed bit signalling digital interfaces, it corresponds to an "on-hook" indication on the termination. The event is reported by the MG if either the timed transition to this line signal is detected or the line signal already exists. The condition against which the signal is verified is provisioned in the MG.

6.2.4.1 EventsDescriptor parameters

6.2.4.1.1 Idle guard timing

Parameter name:	Idle guard timing
Parameter ID:	idlgt (0x0001)
Description:	Specifies whether the MG shall start an idle guard timer for the receipt of the "Idle" signal. If the idle guard timer expires prior to the detection of idle signal and the CAS Failure event is active, the MG shall report a CAS Failure event with a "IDLTO" error. The timer value is provisioned on the MG.
Type:	Boolean
Optional:	Yes
Possible values:	On when the idle guard timing is requested Off when the idle guard timing is turned off.

Default: Off

6.2.4.2 ObservedEventsDescriptor parameters

None.

6.2.5 CAS failure

Event name: CAS failure

Event ID: casf (0x0005)

Description: Reports general CAS failures associated with this package.

6.2.5.1 EventsDescriptor parameters

None.

6.2.5.2 ObservedEventsDescriptor parameters

6.2.5.2.1 Error code

Parameter name: Error code

Parameter ID: ec (0x0001)

Description: Describes the reasons for CAS failures encountered at an MG. The MGC may take corrective actions upon receiving one of these error codes (clear the call, reattempt on new trunk, etc.). "ULS" is reported when the MG encounters a line signal on the CAS trunk other than the one expected for the current state of the trunk. "LTO" is reported when a timeout occurs locally on the MG while waiting for a line signal on the CAS trunk. "SME" is reported when the MG encounters an internal CAS protocol or processing error. "IDLTO" is reported when the idle guard timer expires on the MG while waiting for the idle line signal on the trunk.

Type: Enumeration

Optional: No

Possible values:

ULS (0x0001)	Unexpected line signal
LTO (0x0002)	Line signal timeout
SME (0x0004)	Protocol State machine malfunction
IDLTO (0x0005)	Idle Guard Timeout

Default: None

6.3 Signals

6.3.1 Seize

Signal name: Seize

Signal ID: sz (0x0001)

Description: Applies a "Seizing" signal on the termination. The signal that is actually sent on the physical termination is provisioned in the MG.

Signal type: Brief

Duration: Not applicable (See "Signal Procedures".)