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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication
procedures

Gateway control protocol: Stimulus analogue line package

Recommendation ITU-T H.248.34



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Recommendation ITU-T H.248.34

Gateway control protocol: Stimulus analogue line package

Summary

Recommendation ITU-T H.248.34 describes a stimulus analogue line package that defines new ITU-T H.248 events, signals and parameters derived from the V5 PSTN protocol defined in Recommendation ITU-T G.964.

To assist both vendors and operators in migrating V5 local exchange and access network nodes to a next generation network (NGN) media gateway (MG) and media gateway controller (MGC) architecture, the package provides guidelines for mapping the V5 PSTN protocol to the "stimulus analogue line" package, other ITU-T H.248 packages and the ITU-T H.248.1 protocol.

This revision clarifies dialling method indications, implements a syntactical correction of steady state signal "reversed polarity" (see Table 6) and corrects the V5 digit-signal information element mapping (Table I.2).

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.248.34	2005-01-08	16
2.0	ITU-T H.248.34	2012-02-13	16

FOREWORD

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Recommendation ITU-T H.248.34

Gateway control protocol: Stimulus analogue line package

1 Scope

The stimulus analogue line package defines ITU-T H.248 signals and events that are exchanged between a media gateway (MG) and a media gateway controller (MGC) for controlling analogue plain old telephone service (POTS) lines which can, for example, be used to host telephones, analogue private branch exchanges (PBXs) and turn-key systems. The signals and events defined in the package are stimulus in nature and enable the full set of POTS services that are delivered via a V5 local exchange (LE) and access network (AN) to be ubiquitously provided in a next generation network (NGN) MG and MGC architecture.

NOTE – The use of the Call Finished signal is a national option. It is included as part of a joint text with ETSI. In normal circumstances, the national specific functionality shall be included as a separate package. The use of the Call Finished signal shall not compromise existing ITU-T H.248 procedures.

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 G.964] Recommendation ITU-T G.964 (2001), *V-interfaces at the digital local exchange (LE) – V5.1 interface (based on 2048 kbit/s) for the support of access network (AN)*.
- [ITU-T G.965] Recommendation ITU-T G.965 (2001), *V-interfaces at the digital local exchange (LE) – V5.2 interface (based on 2048 kbit/s) for the support of access network (AN)*.
- [ITU-T H.248.1] Recommendation ITU-T H.248.1 (2002), *Gateway control protocol: Version 2, plus Corrigendum 1 (2004)*.
- [ITU-T H.248.8] Recommendation ITU-T H.248.8 (2002), *Gateway control protocol: Error code and service change reason description, plus Amendment 1 (2004), New error code 458 (Unexpected Event/RequestID)*.
- [ITU-T H.248.23] Recommendation ITU-T H.248.23 (2005), *Gateway control protocol: Enhanced alerting packages*.
- [ITU-T H.248.26] Recommendation ITU-T H.248.26 (2003), *Gateway control protocol: Enhanced analogue lines packages, plus Amendment 1 (2005)*.
- [ITU-T H.248.70] Recommendation ITU-T H.248.70 (2009), *Gateway control protocol: Dialling method information packages*.

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3 Definitions

This Recommendation defines the following terms:

3.1 access network (AN): A system implemented between the local exchange (LE) and user, replacing part or the whole of the local line distribution network.

3.2 local exchange (LE): An exchange on which user lines are terminated via an access network (AN).

3.3 V5: A general term for the family of V interfaces for connection of ANs to the LE, e.g., a V5.1 interface or a V5.2 interface.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AN	Access Network
BCC	Bearer Channel Connection
FSK	Frequency-Shift Keying
LE	Local Exchange
MG	Media Gateway
MGC	Media Gateway Controller
NGN	Next Generation Network
PBX	Private Branch Exchange
POTS	Plain Old Telephone Service
PSTN	Public Switched Telephone Network
TDM	Time Division Multiplex

5 Conventions

None.

6 Stimulus Analogue Line Package

Package name: Stimulus Analogue Line Package

Package ID: stimal (0x0093)

Description: This package defines all the stimulus events and signals necessary for controlling an analogue line. This analogue line package is different from other ITU-T H.248 analogue line packages, because the analogue signals and events that are exchanged between the MGC and the MG are stimulus rather than functional in nature. The stimulus approach enables the MG to be transparent to the underlying service being delivered by the MGC and also does not unduly restrict the types of services that may be delivered to an analogue line.

The ITU-T H.248 signals and events have been derived from the V5 PSTN protocol signals defined in [ITU-T G.965], [ITU-T G.964]. This approach enables the MGC to support the same type of services and capabilities as the existing PSTN network.

NOTE – Unlike an AN as defined in [ITU-T G.964] and [ITU-T G.965], an ITU-T H.248 MG has the capability to detect in-band (e.g., DTMF) signals, generate local tones and announcements and generate frequency-shift keying (FSK) tones for caller display purposes. Control of these capabilities is provided by other packages in the ITU-T H.248 series of Recommendations.

The stimulus analogue line package is a superset package that defines the full repertoire of signals and events. A particular PSTN national authority may support a subset of the signals, events and parameters listed in the package.

Version: 1
Extends: none

6.1 Properties

None.

6.2 Events

6.2.1 Steady signal

Event name: Steady Signal
Event ID: stedsig (0x0001)
Description: Activation of the "Steady Signal" event results in either all the steady signals that are supported by the MG being reported to the MGC, or a list of specified steady signals being reported by the MG to the MGC. The former functionality is achieved by excluding the events descriptor parameter "Signal to Detect" when the event descriptor is activated. The latter functionality is achieved by including the events descriptor parameter "Signal to Detect" when the events descriptor is activated. The actual steady signal that is reported to the MGC is identified by the ObservedEventsDescriptor parameter "Detected Signal".

The default recognition time of a particular steady signal may be modified via the events descriptor parameter "Recognition Time".

6.2.1.1 EventsDescriptor parameters

6.2.1.1.1 Signal to Detect

Parameter name: Signal to Detect
Parameter ID: detectsig (0x0001)
Description: This parameter indicates to the MG the type of steady signals that are to be recognized by the MG.

If this parameter is excluded, then all steady signals that are recognized by the MG are detected and subsequently reported via the ObservedEvents descriptor.

If this parameter is included, then only the specified list of steady signals are detected and subsequently reported via the ObservedEvents descriptor.

Type: sub-list of Enumeration

...

Optional: yes

Possible values: See Table 1 below for a list of steady signal parameter names and values.

Default: all steady signals

Table 1 – Steady signal parameter names and values

Text encoding	Binary encoding
"normalPolarity"	(0x0000)
"reversePolarity"	(0x0001)
"batteryOnC-wire"	(0x0002)
"noBatteryOnC-wire"	(0x0003)
"offHook"	(0x0004)
"onHook"	(0x0005)
"batteryOnA-wire"	(0x0006)
"aWireonEarth"	(0x0007)
"noBatteryOnA-wire"	(0x0008)
"noBatteryOnB-wire"	(0x0009)
"reducedBattery"	(0x000a)
"noBattery"	(0x000b)
"alternateReducedPower"	(0x000c)
"normalBattery"	(0x000d)
"stopRinging"	(0x000e)
"startPilotFrequency"	(0x000f)
"stopPilotFrequency"	(0x0010)
"lowImpedanceonB-wire"	(0x0011)
"b-wireConnectedtoearth"	(0x0012)
"b-wireDisconnectedfromearth"	(0x0013)
"batteryOnB-wire"	(0x0014)
"lowLoopImpedance"	(0x0015)
"highLoopImpedance"	(0x0016)
"anomalousLoopImpedance"	(0x0017)
"a-wireDisconnectedfromearth"	(0x0018)
"c-wireOnearth"	(0x0019)
"c-wireDisconnectedfromearth"	(0x001a)
"rampToReversePolarity"	(0x001d)
"rampToNormalPolarity"	(0x001e)