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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication procedures

Gateway control protocol: ITU-T H.248 support for media-oriented negotiation acceleration (MONA)

Recommendation ITU-T H.248.72

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Recommendation ITU-T H.248.72

Gateway control protocol: ITU-T H.248 support for media-oriented negotiation acceleration (MONA)

Summary

Recommendation ITU-T H.248.72 defines two ITU-T H.248 packages that are intended for media gateways and media gateway controllers designed to support the media-oriented negotiation acceleration (MONA) negotiation procedures from Recommendation ITU-T H.324. More specifically, this Recommendation contains:

– The "MONA Preference" package that supports the sending and reception of MONA preference messages as well as the handling of the completion conditions; the detection of legacy conditions allowing for a swift fallback to Recommendation ITU-T H.245 interworking and the sending and reception of media in preconfigured channels, the so-called media preconfigured channel (MPC).

– The "H.245 Transport for SPC Use" package, that supports the sending and reception of ITU-T H.245 messages using the signalling preconfigured channel (SPC) during a MONA negotiation procedure.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.248.72	2009-12-14	16

FOREWORD

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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, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

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Gateway control protocol: ITU-T H.248 support for media-oriented negotiation acceleration (MONA)

1 Scope

This Recommendation defines ITU-T H.248 packages that allow a decomposed gateway to realize the media-oriented negotiation acceleration (MONA) negotiation procedures specified in Annex K of [ITU-T H.324].

During the MONA negotiation, terminals exchange their capabilities depending on which of the methods for establishing media channels are supported:

– signalling preconfigured channel (SPC);

– media preconfigured channel (MPC);

– accelerated ITU-T H.245 procedure (ACP).

The ACP method is supported in all terminals. The exchange of the MONA preference messages allows the determination of which of the three methods is used.

The "MONA Preference" package supports the sending and reception of MONA preference messages. It provides the following capabilities:

– Sending and reception of MONA preference messages including automatic retransmission.

– Sending and reception of media in preconfigured channels during the MONA negotiation procedures.

– Detection of legacy condition: this capability allows for a swift fallback to [ITU-T H.245] interworking.

– Completion of the MONA negotiation procedures.

The "MONA Preference" package is thus mandatory for any decomposed gateway that supports the ITU-T H.324, Annex K MONA procedures.

The "MONA Preference" package also includes the needed ITU-T H.248 capabilities for the use of the MPC method to establish media channels. These MPC related capabilities within the package only need to be supported by decomposed gateways supporting MPCs.

The "H.245 Transport for SPC Use" package allows the sending and reception of ITU-T H.245 messages using the SPC method during a MONA negotiation procedure. It also allows for the automatic retransmission of the messages to the remote end. This package is defined as an extension of the "H.245 Transport" package.

Decomposed gateways that support the SPC method for establishing media channels need to support the "H.245 Transport for SPC Use" package in addition to the "MONA Preference" package.

The ACP method is used when the terminals do not support another common method, SPC or MPC, or in order to establish missing channels when not all media channels have been already established with MPC. The ACP procedures are realized by exchanging ITU-T H.245 messages. The required ITU-T H.248 capabilities are provided by the [ITU-T H.248.12 Amd.2] H.245 transport package.

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.223] Recommendation ITU-T H.223 (2001), *Multiplexing protocol for low bit rate multimedia communication*.

ITU-T H.245] Recommendation ITU-T H.245 (2008), *Control protocol for multimedia communication*.

[ITU-T H.248.12 Amd.2] Recommendation ITU-T H.248.12 (2007), *Gateway control protocol: H.248.1 packages for H.323 and H.324 interworking, Amendment 2 (2007), Transport mechanism*.

[ITU-T H.324] Recommendation ITU-T H.324 (2009), *Terminal for low bit-rate multimedia communication*.

3 Definitions

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ACP	Accelerated ITU-T H.245 procedures
AMR-WB	Adaptive Multi Rate Wide Band
ICM	Inferred Common Mode
MG	Media Gateway
MGC	Media Gateway Controller
MONA	Media-Oriented Negotiation Acceleration
MOS	Media-Oriented Set-up
MPC	Media Preconfigured Channel
MSD	Master Slave Determination
MUX	Multiplexer
OID	Object Identifier
PDU	Protocol Data Unit
RTD	Round Trip Delay
RX	Receive
SPC	Signalling Preconfigured Channel
TCS	Terminal Capability Set
TX	Transmit

5 Conventions

None.

6 H.245 Transport for SPC Use package

Package name: H.245 Transport for SPC Use

Package ID: h245tpspc (0x00f7)

Description: This package extends the [ITU-T H.248.12 Amd.2] H.245 transport package "h245tp" and defines a mechanism for the transport of ITU-T H.245 messages when SPC is used.

Version: 1

Extends: h245tp (0x00b4) version 1

6.1 Properties

None.

6.2 Events

This package does not define any new event. It defines an event parameter and an observed event parameter that can be used in the *h245tpspc/h245msgin* event defined in the base package.

6.2.1 EventsDescriptor parameters

6.2.1.1 Signalling preconfigured channel

Parameter name: SPC

Parameter ID: spc (0x0001)

Description: This parameter indicates whether the incoming ITU-T H.245 message is expected to be received in the signalling preconfigured channel (SPC) or as a legacy ITU-T H.245 message. If the incoming ITU-T H.245 message is received differently to what this parameter specifies, the event does not occur, i.e., the ITU-T H.245 message is not reported.

After the MG has detected a *monapref/legdet* event, the MG does not need to continue detecting incoming ITU-T H.245 messages in the SPC and shall not report them to the MGC, even if *h245tpspc/h245msgin* is not removed from the EventsDescriptor.

Type: Enumeration

Optional: Yes

Possible values: "H245" (0x0001): Message should be received as a legacy ITU-T H.245. "SPC" (0x0002): Message should be received in the SPC. "Both" (0x0003): Message may be received either way.

Default: "H245"

6.2.2 ObservedEventsDescriptor parameters

6.2.2.1 Signalling preconfigured channel

Parameter name: SPC

Parameter ID: spc (0x0002)

Description:	This parameter indicates that the incoming ITU-T H.245 message has been received in the SPC.
Type:	Boolean
Optional:	Yes
Possible values:	ON: ITU-T H.245 message was received in the SPC. OFF: ITU-T H.245 message was received as a legacy message.
Default:	OFF

6.3 Signals

This package does not define any new signal. It defines a signal parameter that can be used in the *h245tpspc/h245msgout* signal defined in the base package.

6.3.1 Additional parameters

6.3.1.1 Signalling preconfigured channel

Parameter name:	SPC
Parameter ID:	spc (0x0002)
Description:	This parameter indicates whether the MG shall send the ITU-T H.245 message in the SPC or as a legacy. Thus no message is sent if there is no MONA preference message sending ongoing, ordered with signals *monapref/monaprefmsgout*.
Type:	Boolean
Optional:	Yes
Possible values:	ON: ITU-T H.245 message shall be sent in the SPC. OFF: ITU-T H.245 message shall be sent as a legacy.
Default:	OFF

6.3.1.2 Repetition

Parameter name:	Repetition
Parameter ID:	rep (0x0003)
Description:	Indicates that the MG shall indefinitely repeat the sending of the ITU-T H.245 message in the SPC. This parameter is only relevant when the *spc* signal parameter equals ON.
Type:	Boolean
Optional:	Yes
Possible values:	ON: ITU-T H.245 message shall be repeated until the signal is removed OFF: ITU-T H.245 message shall only be sent once
Default:	ON

6.4 Statistics

None.

6.5 Error codes

None.

6.6 Procedures

If the MGC wants to be notified about ITU-T H.245 messages received in the signalling preconfigured channel (SPC), it shall include the *spc* parameter set to "SPC" in the *h245tpspc/h245msgin* event. In that case, the MG will only report the event if the ITU-T H.245 message is received in the SPC. If the MGC wants to be notified about ITU-T H.245 messages either received in the SPC or as a legacy, it shall include the *spc* parameter set to "BOTH" in the *h245tpspc/h245msgin* event.

If the MGC does not include the *spc* parameter in the *h245tpspc/h245msgin* event or if the MGC sets it to "H245", the MG will only report reception of legacy ITU-T H.245 messages.

If the MGC includes the *spc* parameter set to "BOTH" in the *h245tpspc/h245msgin* event and the ITU-T H.245 message is received in the SPC, the MG will include the *spc* parameter set to "SPC" in the observed event. In any other case, it is optional for the MG to include the parameter as there is no ambiguity.

When the MG is requested to detect incoming ITU-T H.245 messages in the SPC, i.e., *spc* parameter set to "SPC" or to "BOTH", the MG shall do so as long as the event remains active or until a *monapref/legdet* event is detected.

This package can be used by MGC and MGs implementing the SPC procedures specified in [ITU-T H.324].

An MGC that wants to send an ITU-T H.245 message in the SPC channel shall send the *h245tpspc/h245msgout* signal to the MG with the '*spc*' parameter set to 'ON'. In this case, the ITU-T H.245 message can only be sent by the MG if there is an ongoing MONA preference message sending. Sending of MONA preference messages must be ordered prior to or in combination with the ordering of SPC with signal *monapref/monaprefmsgout*. The MGC may additionally request the MG to retransmit the message by including the parameter '*rep*' set to 'ON'. This retransmission is used for example for a MOS request message, as specified in [ITU-T H.324]. The '*rep*' parameter is only relevant when the '*spc*' parameter is set to 'SPC'. No automatic retransmission can be ordered for normal ITU-T H.245 communication.

If the MGC orders the retransmission of the message in the SPC signalling channel, it is the responsibility of the MGC to stop the retransmission by sending a new signal descriptor.

7 MONA preference package

Package name:	MONA Preference
Package ID:	monapref (0x00f8)
Description:	This package is used for transporting MONA preferences. The package defines a signal for sending MONA preference messages from a MGC to MG and an event for sending MONA preferences messages from the MG to MGC which are needed when the interworking function is handled by the MGC. Additionally the package defines events for indicating the completion of MONA preference negotiation, legacy interworking and media preconfigured channel.
Version:	1
Extends:	None

7.1 Properties

7.1.1 MONA class

Property name: MONA Class

Property ID: class (0x0001)

Description: This property indicates which of the MONA negotiation methods are supported by the MG. It is applicable to the Root Termination only.

Type: Enumeration

Possible values: "1" (0x0001): MG supports SPC, MPC and ACP procedures.
"2" (0x0002): MG supports MPC and ACP procedures.
"3" (0x0003): MG supports SPC and ACP procedures.

Default: None

Defined in: TerminationState

Characteristics: ReadOnly

7.1.2 Supported preconfigured channels receive

Property name: Supported Media Preconfigured Channels Receive

Property ID: mpcrx (0x0002)

Description: This property indicates which media preconfigured channels the MG is capable of receiving. It is applicable to the Root Termination only.

Type: OCTET STRING

Possible values: Octet string of size 2 where the bits 1 to 13 (least significant 13 bits) indicate the support or not by the MG of the corresponding Mux code value. It follows the same format as the "Media Preconfigured Channel Receive bits" (MPC-RX) field in the MONA preference message, as defined in Annex K of [ITU-T H.324], Table K.5. The three most significant bits are set to 0.

Example:

The octet string 00000000 00000111 indicates support of the Mux code values 1, 2 and 3. In text encoding, this octet string is represented as 00 E0.

NOTE – The MONA preference message is built by the MGC and the contents of the MPC-RX field may differ from the value of the mpcrx property if the MGC determines to use only a subset of the supported options.

Default: None

Defined in: TerminationState

Characteristics: ReadOnly

7.1.3 Supported preconfigured channels transmit

Property name: Supported Media Preconfigured Channels Transmit

Property ID: mpctx (0x0003)

Description: This property indicates which media preconfigured channels the MG is capable of transmitting. It is applicable to the Root Termination only.

Type: OCTET STRING

Possible values: Octet string of size 2 where the bits 1 to 13 (least significant 13 bits) indicate the support or not by the MG of the corresponding Mux code value. It follows the same format as the "Media Preconfigured Channel Transmit bits" (MPC-TX) field in the MONA preference message, as defined in Annex K of [ITU-T H.324], Table K.5. The three most significant bits are set to 0.

Example:

The octet string 00000000 00000111 indicates support of the Mux code values 1, 2 and 3. In text encoding, this octet string is represented as 00 E0.

NOTE – The MONA preference message is built by the MGC and the contents of the MPC-TX field may differ from the value of the *mpctx* property if the MGC determines to use only a subset of the supported options.

Default: None

Defined in: TerminationState

Characteristics: ReadOnly

7.2 Events

7.2.1 MONA preference reception

Event name: MONA Preference reception

Event ID: monaprefmsgin (0x0001)

Description: This event occurs when the MG detects the first MONA preference message on the termination where it is set. After the MG detects a *legdet* event, the MG should cease detection of incoming MONA preference messages and shall not report the *monaprefmsgin* event to the MGC, even if it is not removed from the EventsDescriptor.

7.2.1.1 EventsDescriptor parameters

None.

7.2.1.2 ObservedEventsDescriptor parameters

7.2.1.2.1 Contents of MONA preference message

Parameter name: Contents of MONA Preference message

Parameter ID: prefmsgc (0x0001)

Description: This parameter specifies the actual contents of the MONA preference message.

Type: OCTET STRING

Optional: No

Possible values: The octet string is the actual encoding of the MONA preference message as defined in Table K.4 of [ITU-T H.324].

Default: None

7.2.2 MONA preference negotiation completed

Event name: MONA Preference negotiation completed

Event ID: monaprefcompl (0x0002)

Description: This event occurs when the MG detects the first MONA preference message containing an indication that the MONA preference negotiation is completed, i.e., acknowledgement bits are '10', or when the MG receives the first non empty ITU-T H.223 MUX-PDU, on the termination where this event is set. After the MG has detected a *legdet* event, it should cease detection of incoming MONA preference messages and shall not report a *monaprefcompl* event to the MGC, even if it is not removed from the EventsDescriptor.

7.2.2.1 EventsDescriptor parameters

None.

7.2.2.2 ObservedEventsDescriptor parameters

None.

7.2.3 Legacy detected

Event name: Legacy Detected

Event ID: legdet (0x0003)

Description: This event occurs when the MG detects a legacy interworking condition on the termination where the event is set.

7.2.3.1 EventsDescriptor parameters

None.

7.2.3.2 ObservedEventsDescriptor parameters

None.

7.2.4 MPC reception

Event name: MPC reception

Event ID: mpcrec (0x0004)

Description: This event occurs when the MG detects the first MONA preference message containing encapsulated media preconfigured channel (MPC) media of a predefined channel type or when the MG detects the first non-empty ITU-T H.223 MUX PDU of a predefined channel type on the termination where the event is set. The event occurs once for each different channel type. After the MG has detected a *legdet* event, it should cease detection of incoming MONA preference messages with attached MPC and shall not report the *mpcrec* event to the MGC, even if it is not removed from the EventsDescriptor.

7.2.4.1 EventsDescriptor parameters

None.

7.2.4.2 ObservedEventsDescriptor parameters

7.2.4.2.1 Mux code

Parameter name: Mux Code

Parameter ID: muxcode (0x0001)

Description: This parameter specifies the Mux code values in the media preconfigured channel configuration.

Type: OCTET STRING

Optional: No

Possible values: The octet string is the actual encoding of the Mux code. The Mux code is carried in the four least significant bits of one octet, as defined in clause K.9.3 of [ITU-T H.324]. The four most significant bits are set to 0. The values of the Mux code are defined in Table K.15 of [ITU-T H.324].

Example:

Mux code 2 (AMR-WB) is represented by octet string 00000010

Default: None

7.3 Signals

7.3.1 Outgoing MONA preference message

Signal name: Outgoing MONA preference message

Signal ID: monaprefmsgout (0x0001)

Description: This signal requests the MG to send a MONA preference message. The message is sent repeatedly as long as the signal is active or until a *monaprefcompl* event is detected.

Signal type: OnOff

Duration: Not applicable

7.3.1.1 Additional parameters

7.3.1.1.1 Contents of MONA preference message

Parameter name: Contents of MONA preference message

Parameter ID: prefmsgc (0x0001)

Description: This parameter specifies the contents of a MONA preference message.

Type: OCTET STRING

Optional: No

Possible values: The octet string is the encoding of the MONA preference message as defined in Table K.4 of [ITU-T H.324].

Default: None

7.3.2 Forward media in preconfigured channel

Signal name: Forward Media in Preconfigured Channel

Signal ID: Preconfchannelmedia (0x0002)

Description: This signal requests the MG to forward available media outwards of the context in preconfigured channels. The media PDUs are encapsulated in MONA preference messages. As a result, this signal has no effect if the *monaprefmsgout* signal is not active, or if the sending of MONA preference messages has been stopped as a result of the detection of a *monaprefcompl* event.

Signal type: OnOff

Duration: Not applicable

7.3.2.1 Additional parameters

7.3.2.1.1 Mux code

Parameter name: Mux Code

Parameter ID: muxcode (0x0003)

Description: This parameter specifies the Mux code values in the media preconfigured channel configuration. The MG is requested to start forwarding available media using this configuration. Only one Mux code value per media type may be given at any time. The MGC determines which of the values supported by the MG is used for transmitting. The value must have been included in the MPC-TX field in the MONA preference message sent to the peer.

Type: Sub-list of OCTET STRING

Optional: No

Possible values: Each element in the list is an octet string of size one with the actual encoding of the Mux code in the four least significant bits. The four most significant bits are set to 0. The values of the Mux code are defined in Table K.15 of [ITU-T H.324].

Default: None

7.4 Statistics

None.

7.5 Error codes

None.

7.6 Procedures

An MGC implementing the MONA procedures may find out which of the negotiation methods are supported by the MG by auditing the "MONA Class" *monapref/class* property on the Root Termination. Alternatively, this information may be already available in the MGC by configuration.

Additionally, if the MG supports the MPC procedures, i.e., class 1 or 2, the MGC may find out which of the media codec options are supported by the MG for the establishment of media preconfigured channels in the receive and transmit direction by auditing the *monapref/mpcrx and monapref/mpctx* properties. Alternatively, this information may be already available in the MGC by configuration. The MG may indicate its support for multiple codec options but the MGC shall only request MPC transmission for one codec option per media type at a time.

Thereafter, the MGC shall build the MONA preference messages based on the procedures which are supported by the MG. The MGC may choose to indicate only a subset of the MG supported capabilities in the MONA preference messages. Indicating capabilities not supported by the MG in the MONA preference message may result in erroneous negotiation and failure to transmit or receive media. The MG does not verify if the contents of the MONA preference message being sent correspond to its supported capabilities.

An MGC implementing the MONA procedures shall request the MG to notify the detection of MONA preference events: MONA Preference message reception, MONA preference negotiation completed, Legacy detected and MPC Reception. The latter event is only needed if the MPC is one of the methods supported for the establishing of media channels. Additionally, the MGC orders the MG to start the transmission of the MONA preference message with signal

monapref/monaprefmsgout indicating the content of the message in the signal parameter *prefmsgc*. Thereafter, the MG autonomously retransmits the MONA preference message, eventually updating the acknowledgement bits. If MPC is supported, the MGC may request the MG to forward available early media encapsulated in the MONA preference messages by sending the *monapref/Preconfchannelmedia*. The MGC should preferably send the signal in the same signal descriptor as the *monapref/monaprefmsgout* signal for a faster set-up.

When the MG receives a MONA preference message from the remote end, it shall examine the contents of the message and notify the corresponding events to the MGC.

If the MGC determines that SPC is to be used when early media (via the MPC) is underway, it shall stop the MPC by removing the *monapref/Preconfchannelmedia* signal and the *monapref/mpcrec* event.

If the MG notifies the MGC about the reception of an MPC PDU and the MGC determines that this channel can be established, it shall do so by configuring the multiplex termination with the 'Incoming Multiplex Table' property [ITU-T H.248.12 Amd.2].

When the MGC has received notifications that MPC PDUs have been received in valid channels for all media types, it should remove the *mpcrec* event from the EventsDescriptor. It should also remove it if it determines that no more channels can be established based on the received MPC-TX bits.

If the MGC determines that early media may continue for some media types but should be discontinued for others, it shall send the *monapref/Preconfchannelmedia* signal with a *muxcode* parameter modified appropriately. This may only occur as a result of the received MONA Preference message from the peer indicating that the media channel has not been established (i.e., MPC-RX received at the terminal did not match the media transmission from the terminal). Otherwise, a terminal is committed to continue using the channel indicated from the beginning.

When deactivating or modifying the signal, the MGC should take care not to deactivate other possibly ongoing signals, most notably the *monapref/monaprefmsgout* signal, if that is not intended.

7.6.1 MONA preference negotiation completion

A terminal considers the MONA Preference Negotiation phase completed when it receives a MONA preference message with acknowledgement bits set to '10', or when it receives the first non-empty ITU-T H.223 MUX-PDU [ITU-T H.223]. After that point, the terminal will only send MONA preference messages for encapsulating SPC, if SPC is ongoing.

A MG implementing the MONA procedures shall read the acknowledgement bits of the received MONA preference messages. When a MONA preference message is received with the acknowledgement bits set to '10', or when the first non-empty ITU-T H.223 MUX-PDU is received, the MG shall inform the MGC that MONA negotiation is completed with the observed event *monapref/monaprefcompl*.

The MG shall also at this point stop any:

– Sending of MONA preference messages with the exception of MONA preference message encapsulating SPC when SPC sending is ongoing, i.e., when signal *h245tpspc/h245msgout* with parameter *spc* = ON is active.

– Sending of MPC media encapsulated in MONA preference message, as a consequence of the above action.

– Detection of incoming MONA preference messages, if a MONA preference message was already received.

NOTE – In an unlikely case, a non-empty ITU-T H.223 MUX PDU may be received at the MG before any MONA preference message has been received. In this case, the MG shall not discontinue the detection of incoming preference messages.

– Detection of MONA Preference Negotiation completed.

Stopping the above actions does not imply any change in the contents of the SignalsDescriptor nor EventsDescriptor, i.e., the signals and events remain in the respective descriptor until the MGC changes their contents. Stopping the above actions is a consequence of the signals and events definition.

7.6.2 Fallback to ITU-T H.245 interworking

An MGC and a MG involved in a MONA negotiation procedure with a remote terminal should fallback to ITU-T H.245 interworking on the occurrence of any of the conditions specified in [ITU-T H.324], i.e.:

– More than 20 valid consecutive multiplexer level stuffing flags are detected, as described in clause C.6 in [ITU-T H.324].

– A normal start-up procedure is detected with the receipt of a normal ITU-T H.245 **TerminalCapabilitySet** message as the first non-empty ITU-T H.223 MUX-PDU at an initial multiplexer level agreed by detecting the standard multiplexer level set-up.

– A normal ITU-T H.245 **TerminalCapabilitySet** message with empty **genericControlCapability** containing MOS OID is received after completion of the MOS procedure.

– No valid MOS request is detected, or the ICM is not accepted, within a multiple of the network round trip delay (RTD) period. Typically, three RTDs are adopted. An exception to this fallback condition is also specified in clause K.8.2 of [ITU-T H.324].

The first fallback condition is detected by the MG. All other fallback conditions are detected by the MGC.

In case a fallback to ITU-T H.245 interworking is determined, all channels must be established with legacy ITU-T H.245 methods, i.e., if any channel had already been established, it will be dropped.

7.6.2.1 Legacy condition detected by MGC

If an MGC involved in a MONA negotiation procedure detects any of the conditions specified in clauses K.7.1.2 and K.8.2 of [ITU-T H.324], it should initiate a fallback to legacy interworking and order the MG to:

– stop signal *monapref/monaprefmsgout*;

– disable event *monapref/monaprefmsgin*;

– disable event *monapref/monaprefcompl*;

– stop signal *h245tpspc/h245msgout*, if it had been ordered with parameter *spc*=ON;

– disable event *h245tpspc/h245msgin*, if it had been armed with parameter *spc*=ON;

– stop signal *monapref/Preconfchannelmedia*;

– disable event *monapref/mpcrec*.

7.6.2.2 Legacy condition detected by MG

The MGC may also initiate standard ITU-T H.245 signalling in parallel in order to minimize the time for a legacy interworking fallback. This is done by arming a "Legacy detected" event including an embedded signal descriptor. The embedded signal is the initial ITU-T H.245 message out signal (including H.245 TCS+MSD) to send in case fallback to legacy interworking is detected. The MGC shall not include the *monaprefmsgout* signal nor the *h245tpspc/h245msgout* signal with parameter *spc* = ON in the embedded signal descriptor in order to stop the sending of MONA preference messages as well as encapsulated MPC and SPC when a legacy condition is detected by the MG. The MG will only send the embedded signal in case it detects a legacy interworking condition as specified in clause K.7.1.2 of [ITU-T H.324].

Alternatively, the MGC may send the signal descriptor with the initial H.245 signal and without the MONA related signals subsequently to the reception of the *legdet* event.

If the "Legacy interworking detected" event occurs, the MG shall stop any ongoing:

– detection of incoming MONA preference messages;
– detection of MONA preference negotiation completed;
– detection of incoming MPC media in predefined channels;
– detection of incoming SPC signals.

Stopping the above actions does not imply any change in the contents of the EventsDescriptor, i.e., the events remain in the descriptor until the MGC changes its contents. The events related to the detection actions above by definition cannot occur once the *legdet* event has been detected.

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