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Technical Specification

Methods for Testing and Specification (MTS); Conformance Test Specification for ITU-T H.248.1; Part 1: Protocol Implementation Conformance Statement (PICS) proforma



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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Methods for Testing and Specification (MTS).

The present document is part 1 of a multi-part deliverable covering Conformance Testing Specification for ITU-T H.248.1, as identified below:

- Part 1: "Protocol Implementation Conformance Statement (PICS) proforma";**
- Part 2: "Test Suite Structure and Test Purposes (TSS&TP)";
- Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma".

Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called an Implementation Conformance Statement (ICS).

1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for the audiovisual and multimedia systems Infrastructure of audiovisual services - Communication procedures, Gateway control protocol defined in ITU-T Recommendation H.248.1 [1] and its corrigendum [2] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [5] and ETS 300 406 [3].

The supplier of a protocol implementation which is claimed to conform to ITU-T Recommendation H.248.1 [1] and [2] is required to complete a copy of the PICS proforma provided in annex A of the present document and is required to provide the information necessary to identify both the supplier and the implementation.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ITU-T Recommendation H.248.1(2002): "Gateway control protocol: Version 2".
- [2] ITU-T Recommendation H.248.1 v2 Corrigendum 1 (2004): "Gateway control protocol: Version 2".
- [3] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [4] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [5] ISO/IEC 9646-7 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [6] IETF RFC 2327: "SDP: Session Description Protocol".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ITU-T Recommendation H.248.1 [1], ISO/IEC 9646-1 [4], ISO/IEC 9646-7 [5] and the following apply:

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

NOTE: The PICS can take several forms: protocol PICS, profile PICS, profile specific PICS, information object PICS, etc.

Protocol ICS (PICS): ICS for an implementation or system claimed to conform to a given protocol specification

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ICS	Implementation Conformance Statement
IUT	Implementation Under Test
MG	Media Gateway
MGC	Media Gateway Controller
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
SCS	System Conformance Statement
SUT	System Under Test

4 Conformance to this PICS proforma specification

If it claims to conform to the present document, the actual PICS proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma given in annex A, and shall preserve the numbering/naming and ordering of the proforma items.

A PICS which conforms to the present document shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause A.1.

Annex A (normative): PICS proforma for ITU-T Recommendation H.248.1

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed PICS.
--

A.1 Guidance for completing the PICS proforma

A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ITU-T Recommendation H.248.1 [1] and [2] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into clauses for the following categories of information:

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the protocol;
- global statement of conformance;
- roles and major capabilities;
- subsidiary capabilities;
- coding supported by the IUT;
- support of annexes;
- timers and parameters.

A.1.2 Abbreviations and conventions

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [5].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Status column

The following notations, defined in ISO/IEC 9646-7 [5], are used for the status column:

m	mandatory - the capability is required to be supported.
o	optional - the capability may be supported or not.
n/a	not applicable - in the given context, it is impossible to use the capability.
x	prohibited (excluded) - there is a requirement not to use this capability in the given context.
o.i	qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table.
ci	conditional - the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression which is defined immediately following the table;

Reference column

The reference column makes reference to ITU-T Recommendation H.248.1 [1] with its corrigendum [2] except where explicitly stated otherwise.

Support column

The supplier of the implementation shall fill in the support column. The following common notations, defined in ISO/IEC 9646-7 [5], are used for the support column:

Y or y	supported by the implementation;
N or n	not supported by the implementation;
N/A, n/a or	no answer required (allowed only if the status is n/a, directly or after evaluation of a conditional status).

If this PICS proforma is completed in order to describe a multiple-profile support in a system, it is necessary to be able to answer that a capability is supported for one profile and not supported for another. In that case, the supplier shall enter the unique reference to a conditional expression, preceded by "?" (for example ?3). This expression shall be given in the space for comments provided at the bottom of the table. It uses predicates defined in the SCS, each of which refers to a single profile and which takes the value TRUE if and only if that profile is to be used.

EXAMPLE 1: ?3: IF prof1 THEN Y ELSE N.

It is also possible to provide a comment to an answer in the space provided at the bottom of the table.

NOTE: As stated in ISO/IEC 9646-7 [5], support for a received PDU requires the ability to parse all valid parameters of that PDU. Supporting a PDU while having no ability to parse a valid parameter is non-conformant. Support for a parameter on a PDU means that the semantics of that parameter are supported.

References to items

For each possible item answer (answer in the support column) within the ICS proforma a unique reference exists, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.), respectively.

EXAMPLE 2: A.5/4 is the reference to the answer of item 4 in table 5 of annex A.

EXAMPLE 3: A.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table 6 of annex A.

Prerequisite line

A prerequisite line takes the form: Prerequisite: <predicate>.

A prerequisite line after a clause or table title indicates that the whole clause or the whole table is not required to be completed if the predicate is FALSE.

A.1.3 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support column boxes provided, using the notation described in clause A.1.2.

However, the tables containing in "Media Gateway Controller role" subclause shall only be completed for Media Gateway Controller implementations, and the tables containing in "Media Gateway role" subclause shall only be completed for Media Gateway implementations.

If necessary, the supplier may provide additional comments in space at the bottom of the tables, or separately on sheets of paper.

More detailed instructions are given at the beginning of the different clauses of the PICS proforma.

A.2 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

A.2.1 Date of the statement

.....

A.2.2 Implementation Under Test (IUT) identification

IUT name:

.....

.....

IUT version:

.....

A.2.3 System Under Test (SUT) identification

SUT name:

.....

.....

Hardware configuration:

.....
.....
.....

Operating system:

.....

A.2.4 Product supplier

Name:

.....

Address:

.....
.....
.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....
.....
.....

A.2.5 Client (if different from product supplier)

Name:

.....

Address:

.....
.....
.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

A.2.6 PICS contact person

(A person to contact if there are any queries concerning the content of the PICS)

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.3 PICS/System Conformance Statement (SCS)

Provide the relationship of the PICS with the SCS for the system.

A.4 Identification of the protocol

The PICS proforma applies to the following standard:

- ITU-T Recommendation H.248.1: "Gateway control protocol: Version 2".

A.5 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No).

NOTE: Answering "No" to this question indicates non-conformance to the protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming, on pages attached to the PICS proforma.

A.6 General Remarks

A.6.1 General structure of the H.248.1 messages

Figure A.1 shows schematically the structure of the protocol messages and the relation of the elements within H.248.1 messages. In principle there are several levels (indicated by the arrows) within the H.248.1 protocol where the command initiator and command responder communicates. These levels are the Transactions, Contexts and Commands. For the Contexts and the Commands the protocol offers a set of descriptors that includes the specific parameters in the actual messages. The PICS tables in the present document follow this concept of different communication levels.

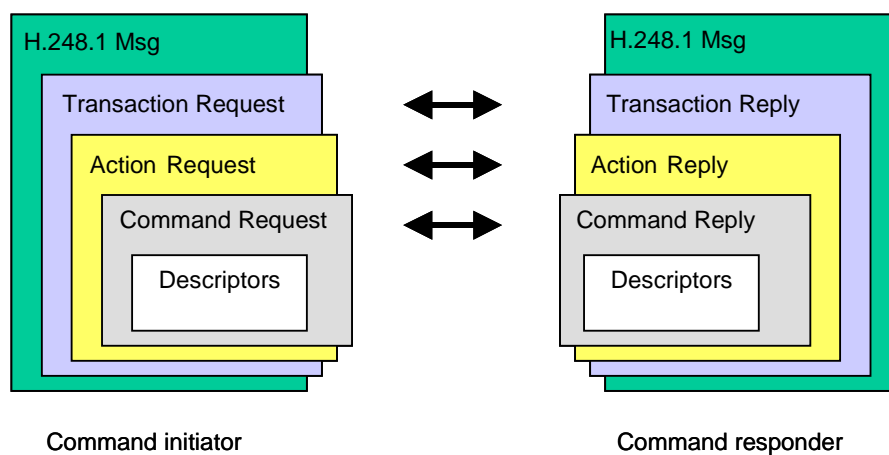


Figure A.1: H.248.1 message structure for the command initiator and the command responder

A.7 Roles

Table A.1: Role of Implementation Under Test (IUT)

Item	Role of the IUT	Reference	Status	Support
1	Media Gateway Controller (MGC)	H.248.1	o.1	
2	Media Gateway (MG)	H.248.1	o.1	
o.1: exactly one of the items				

Comments:

.....

A.8 Media Gateway Controller role

A.8.1 Major capabilities

Table A.2: Major capabilities

Item	properties of the IUT	Reference	Status	Support
1	supports the concept of H.248.1 messages	8.3	m	
2	supports the concept of Transactions	8	m	
3	supports the concept of Contexts	6.1	m	
4	supports the concept of Terminations	6.2	m	
5	supports the concept of Commands applying to Terminations	7	m	
6	support of ordered command processing	8	m	
7	supports the concept of Descriptors applying to Contexts and Terminations	6.2.4, 7.1	m	
8	supports the concept of Packages to characterize Terminations	6.2.3, Annexes	m	
9	supports binary encoding	7.2.10, Annex A	o.2 (see note)	
10	supports text encoding	7.2.10, Annex B	o.2 (see note)	
11	supports the wildcard mechanism for Context IDs and Termination Ids	8.1.2, 6.2.2, 6.3	m	
12	support of the default port number	9	o	
13	supports message transport using TCP/IP	9	m	
14	supports message transport using UDP/IP	9	m	
15	support of the procedures for a cold start	11.2	m	
16	support of the procedures to negotiate the protocol version	11.3	m	
17	supports protection against restart avalanche	9.2	o	
18	supports transaction timer	8	o	
19	support of error code description	7.3	o	
20	support of requesting wildcarded response	6.3.4	o	
o.2: at least one of the items				
NOTE: A MGC should support both encoding formats.				

Comments:

.....

A.8.2 Subsidiary capabilities

A.8.2.1 Support of annexes/Packages

Mandatory elements in subsequent tables of clause A.8.2.1 shall be implemented whereas elements marked as optional are real implementation options.

A.8.2.1.1 H.248.1 annex C: Tags for Media Stream Properties

Table A.3-1: Support of H.248.1 annex C: General media attributes

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: Media	C.1	o	
2	support of property: Transmission mode	C.1	o	
3	support of property: Number of Channels	C.1	o	
4	support of property: Sampling rate	C.1	o	
5	support of property: Bitrate	C.1	o	
6	support of property: ACodec	C.1	o	
7	support of property: Samplepp	C.1	o	
8	support of property: Silencesupp	C.1	o	
9	support of property: Encrypttype	C.1	o	
10	support of property: Encryptkey	C.1	o	
11	support of property: Echocanc	C.1	o	
12	support of property: Gain	C.1	o	
13	support of property: Jitterbuff	C.1	o	
14	support of property: PropDelay	C.1	o	
15	support of property: RTPpayload	C.1	o	

Comments:

Table A.3-2: Support of H.248.1 annex C: Mux properties

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: H222	C.2	o	
2	support of property: H223	C.2	o	
3	support of property: V76	C.2	o	
4	support of property: H2250	C.2	o	

Comments:

Table A.3-3: Support of H.248.1 annex C: General bearer properties

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: Mediatx	C.3	o	
2	support of property: BIR	C.3	o	
3	support of property: NSAP	C.3	o	

Comments:

Table A.3-4: Support of H.248.1 annex C: General ATM properties

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: AESA	C.4	o	
2	support of property: VPVC	C.4	o	
3	support of property: SC	C.4	o	
4	support of property: BCOB	C.4	o	
5	support of property: BBTC	C.4	o	
6	support of property: ATC	C.4	o	
7	support of property: STC	C.4	o	
8	support of property: UPCC	C.4	o	
9	support of property: PCR0	C.4	o	
10	support of property: SCR0	C.4	o	
11	support of property: MBS0	C.4	o	
12	support of property: PCR1	C.4	o	
13	support of property: SCR1	C.4	o	
14	support of property: MBS1	C.4	o	
15	support of property: BEI	C.4	o	
16	support of property: TI	C.4	o	
17	support of property: FD	C.4	o	
18	support of property: A2PCDV	C.4	o	
19	support of property: C2PCDV	C.4	o	
20	support of property: APPCDV	C.4	o	
21	support of property: CPPCDV	C.4	o	
22	support of property: ACLR	C.4	o	
23	support of property: MEETD	C.4	o	
24	support of property: CEETD	C.4	o	
25	support of property: QosClass	C.4	o	
26	support of property: AALtype	C.4	o	

Comments:

Table A.3-5: Support of H.248.1 annex C: Frame relay

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: DLCI	C.5	o	
2	support of property: CID	C.5	o	
3	support of property: SID/Noiselevel	C.5	o	
4	support of property: Primary Payload	C.5	o	

Comments:

Table A.3-6: Support of H.248.1 annex C: IP

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: IPv4	C.6	o	
2	support of property: ipv6	C.6	o	
3	support of property: Port	C.6	o	
4	support of property: PortType	C.6	o	

Comments:

Table A.3-7: Support of H.248.1 annex C: ATM AAL2

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: AESA	C.7	o	
2	support of property: BIR	C.7	o	
3	support of property: ALC	C.7	o	
4	support of property: SSCS	C.7	o	
5	support of property: SUT	C.7	o	
6	support of property: TCI	C.7	o	
7	support of property: Timer_CU	C.7	o	
8	support of property: MaxCPSSDU	C.7	o	
9	support of property: CID	C.7	o	

Comments:

.....

Table A.3-8: Support of H.248.1 annex C: ATM AAL1

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: BIR	C.8	o	
2	support of property: AALIST	C.8	o	
3	support of property: CBRR	C.8	o	
4	support of property: MULT	C.8	o	
5	support of property: SCRI	C.8	o	
6	support of property: ECM	C.8	o	
7	support of property: SDTB	C.8	o	
8	support of property: PFCI	C.8	o	

Comments:

.....

Table A.3-9: Support of H.248.1 annex C: Bearer capabilities

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: TMR	C.9	o	
2	support of property: TMRSR	C.9	o	
3	support of property: Contcheck	C.9	o	
4	support of property: ITC	C.9	o	
5	support of property: TransMode	C.9	o	
6	support of property: TransRate	C.9	o	
7	support of property: MULT	C.9	o	
8	support of property: layer1prot	C.9	o	
9	support of property: syncasync	C.9	o	
10	support of property: negotiation	C.9	o	
11	support of property: Userrate	C.9	o	
12	support of property: INTRATE	C.9	o	
13	support of property: nictx	C.9	o	
14	support of property: nicrx	C.9	o	
15	support of property: flowconttx	C.9	o	
16	support of property: flowcontrx	C.9	o	
17	support of property: rateadapthdr	C.9	o	
18	support of property: multiframe	C.9	o	
19	support of property: OPMODE	C.9	o	
20	support of property: llidnegot	C.9	o	
21	support of property: assign	C.9	o	
22	support of property: inbandneg	C.9	o	
23	support of property: stopbits	C.9	o	
24	support of property: databits	C.9	o	
25	support of property: parity	C.9	o	
26	support of property: duplex mode	C.9	o	
27	support of property: modem	C.9	o	
28	support of property: layer2prot	C.9	o	
29	support of property: layer3prot	C.9	o	
30	support of property: addlayer3prot	C.9	o	
31	support of property: DialledN	C.9	o	
32	support of property: DiallingN	C.9	o	
33	support of property: ECHOCI	C.9	o	
34	support of property: NCI	C.9	o	
35	support of property: USI	C.9	o	

Comments:

Table A.3-10: Support of H.248.1 annex C: AAL5 properties

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: FMSSDU	C.10	o	
2	support of property: BMSDU	C.10	o	
3	support of property: SSCS	C.10	o	

Comments:

Table A.3-11: Support of H.248.1 annex C: SDP equivalents

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: SDP_V	C.11	o	
2	support of property: SDP_O	C.11	o	
3	support of property: SDP_S	C.11	o	
4	support of property: SDP_I	C.11	o	
5	support of property: SDP_U	C.11	o	
6	support of property: SDC_E	C.11	o	
7	support of property: SDP_P	C.11	o	
8	support of property: SDP_C	C.11	o	
9	support of property: SDP_B	C.11	o	
10	support of property: SDP_Z	C.11	o	
11	support of property: SDP_K	C.11	o	
12	support of property: SDP_A	C.11	o	
13	support of property: SDP_T	C.11	o	
14	support of property: SDP_R	C.11	o	
15	support of property: SDP_M	C.11	o	

Comments:

.....

Table A.3-12: Support of H.248.1 annex C: H.245

Prerequisite: A.2/7 and A.2/9

Item	Description	Reference	Status	Support
1	support of property: OLC	C.12	o	
2	support of property: OLCack	C.12	o	
3	support of property: OLCcnf	C.12	o	
4	support of property: OLCrej	C.12	o	
5	support of property: CLC	C.12	o	
6	support of property: CLCack	C.12	o	

Comments:

.....

A.8.2.1.2 H.248.1 annex D: Transport over IP

A.8.2.1.2.1 Transport over IP/UDP

Table A.3-13: Support of H.248.1 annex D.1

Prerequisite: A.2/14

Item	Description	Reference	Status	Support
1	providing an "at-most-once" functionality	D.1.1	m	
2	support of the LONG-TIMER	D.1.1	m	
3	support of the three-way handshake mechanism	D.1.2.2	m	
4	use of immAckRquired parameter in the final response (Transaction reply) in case of sending provisional responses (Transaction pending) before	D.1.4	m	

Comments:

.....

A.8.2.1.2.2 Transport over IP/TCP

Table A.4: Support of H.248.1 annex D.2

Prerequisite: A.2/13

Item	Description	Reference	Status	Support
1	providing an "at-most-once" functionality	D.2.1	o	
2	support of the LONG-TIMER	D.2.1	o	
3	support of the three-way handshake mechanism	D.2.2	o	

Comments:

A.8.2.1.3 H.248.1 annex E: Basic Packages

Table A.5: Support of H.248.1 annex E

Prerequisite: A.2/8

Item	Description	Reference	Status	Support
1	support of Generic Package	E.1	o	
2	support of Base Root Package	E.2	o	
3	support of Tone Generator Package	E.3	o	
4	support of Tone Detection Package	E.4	o	
5	support of Basic DTMF Generator Package	E.5	o	
6	support of DTMF Detection Package	E.6	o	
7	support of Call Progress Tones Generator Package	E.7	o	
8	support of Call Progress Tone Detection Package	E.8	o	
9	support of Analog Line Supervision Package	E.9	o	
10	support of Basic Continuity Package	E.10	o	
11	support of Network Package	E.11	o	
12	support of RTP Package	E.12	o	
13	support of TDM Circuit Package	E.13	o	

Comments:

A.8.3 H.248.1 messages and parameters sent by the MGC

Tables in this subclause ask questions related to the supported content of the H.248.1 messages. Due to the modular structure of the H.248.1 protocol the H.248.1 messages consist of a levelled structure of request and reply messages (Transaction, Context and Command level) which includes different protocol parameters, various descriptors and/or parameters defined in packages. According to this modular structure the content of a H.248.1 message can strongly vary depending on the signalling purpose.

Indicating support for an item in the tables of this subclause states that the implementation has the ability to generate and transmit the information elements or parameters listed. Such support does not necessarily mean that the indicated information element is included in every instance of the transmitted message.

A.8.3.1 H.248.1 message content

Table A.6: H.248.1/MEGACO message PDU sent by the MGC

Prerequisite: A.2/1

Item	PDU parameters	Reference	Status	Support
1	support of the protocol version number	8.3, Annex A and B	m	
2	support of an authentication header	10.2	c601	
3	support of IP4 address	Annex A and B	o.3	
4	support of IP6 address	Annex A and B	o.3	
5	support of a domain name	Annex A and B	o.3	
6	support of a device name	Annex A and B	o.3	
7	support of a mtp address	Annex A and B	o.3	
8	support of a port number (see note)	Annex A and B	o	
9	at least one Transaction	8.3, Annex A and B	m	
10	more than one Transaction	8.3, Annex A and B	o	
11	support of Transaction Request	8.2.1	m	
12	support of Transaction Reply	8.2.2	m	
13	support of Transaction Pending	8.2.3	m	
14	support of Transaction ResponseAck	Annex D	c602	
15	error descriptor	11.3, Annex A and B	m	
o.3: at least one of the items c601: IF (the underlying IP networks supports IPv4 but not IPsec) then m IF (the underlying IP networks supports IPv4 and IPsec) then n/a IF (the underlying IP networks supports IPv6) then n/a IF (the underlying network is not an IP network) then n/a c602: IF (A.3/3 OR A.4/3) then m otherwise o NOTE: This is a dynamically assigned port number, not the default port number.				

Comments:

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A.8.3.2 Transactions

Table A.7: Transaction Request sent by the MGC

Prerequisite: A.6/11

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.1	m	
2	at least one Action Request	8.2.1	m	
3	more than one Action Request	8.2.1	o	

Comments:

.....

Table A.8: Transaction Reply sent by the MGC

Prerequisite: A.6/12

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.2	m	
2	ImmAckRequired parameter is set	8.2.2	c801	
3	Error Descriptor	8.2.2	m	
4	at least one Action Reply	8.2.2	m	
c801: IF (A.2/14) then m, IF (A.2/13) then o				

Comments:

Table A.9: Transaction Pending sent by the MGC

Prerequisite: A.6/13

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.3	m	

Comments:

Table A.10: Transaction ResponseAck sent by the MGC

Prerequisite: A.6/14

Item	Parameters	Reference	Status	Support
1	at least one Transaction ID for confirmation included	Annex A and B	m	
2	series of Transaction IDs for confirmation included	Annex A and B	o	

Comments:

A.8.3.3 Contexts

Table A.11: Action Request sent by the MGC

Prerequisite: A. 7/2

Item	Parameters	Reference	Status	Support
1	Context ID (can be a wildcard Context ID)	8.1.2	m	
2	Topology Descriptor	6.1.1, 7.1.18	o	
3	Emergency Descriptor	6.1.1	o	
4	Priority Descriptor	6.1.1	o	
5	audit request for the Context Descriptors	7.2.9	o	
6	at least one Command Request	8	m	
7	more than one Command Request	8	o	
8	Command Request: Add	8, 7.2.1	m	
9	Command Request: Modify	8, 7.2.2	m	
10	Command Request: Subtract	8, 7.2.3	m	
11	Command Request: Move	8, 7.2.4	o	
12	Command Request: AuditValue	8, 7.2.5	o	
13	Command Request: AuditCapabilities	8, 7.2.6	o	
14	Command Request: ServiceChange	8, 7.2.8	m	

Comments:

Table A.12: Action Reply sent by the MGC

Prerequisite: A.8/4

Item	Parameters	Reference	Status	Support
1	Context ID	8.1.2	m	
2	Error Descriptor	8	m	
3	at least one Command Reply	8	m	
4	more than one Command Reply	8	o	
5	Command Reply: Notify	8, 7.2.7	o	
6	Command Reply: ServiceChange	8, 7.2.8	m	
7	Topology Descriptor	6.1.1, 7.1.18	o	
8	Emergency Descriptor	6.1.1	o	
9	Priority Descriptor	6.1.1	o	

Comments:

.....

A.8.3.4 Commands

A.8.3.4.1 Command Requests

Table A.13: Add Command Request sent by the MGC

Prerequisite: A.11/8

Item	Parameters	Reference	Status	Support
1	Termination ID (can be a wildcard Termination ID)	7.2.1	m	
2	Media Descriptor	7.2.1	o	
3	Modem Descriptor	7.2.1	n/a	
4	Mux Descriptor	7.2.1	o	
5	Events Descriptor	7.2.1	o	
6	EventBufferDescriptor	7.2.1	o	
7	Signals Descriptor	7.2.1	o	
8	DigitMap Descriptor	7.2.1	o	
9	Audit Descriptor	7.2.1	o	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

.....

Table A.14: Modify Command Request sent by the MGC

Prerequisite: A.11/9

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.2	m	
2	Media Descriptor	7.2.2	o	
3	Modem Descriptor	7.2.2	n/a	
4	Mux Descriptor	7.2.2	o	
5	Events Descriptor	7.2.2	o	
6	EventBufferDescriptor	7.2.2	o	
7	Signals Descriptor	7.2.2	o	
8	DigitMap Descriptor	7.2.2	o	
9	Audit Descriptor	7.2.2	o	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.15: Subtract Command Request sent by the MGC

Prerequisite: A.11/10

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.3	m	
2	Audit Descriptor	7.2.3	o	

Comments:

Table A.16: Move Command Request sent by the MGC

Prerequisite: A.11/11

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.4	m	
2	Media Descriptor	7.2.4	o	
3	Modem Descriptor	7.2.4	n/a	
4	Mux Descriptor	7.2.4	o	
5	Events Descriptor	7.2.4	o	
6	EventBufferDescriptor	7.2.4	o	
7	Signals Descriptor	7.2.4	o	
8	DigitMap Descriptor	7.2.4	o	
9	Audit Descriptor	7.2.4	o	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.17: Audit Command Request sent by the MGC

Prerequisite: A.11/12

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.5	m	
2	Audit Descriptor	7.2.5	m	

Comments:

.....

Table A.18: AuditCapabilities Command Request sent by the MGC

Prerequisite: A.11/13

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.6	m	
2	Audit Descriptor	7.2.6	m	

Comments:

.....

Table A.19: ServiceChange Command Request sent by the MGC

Prerequisite: A.11/14

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	ServiceChange Descriptor	7.2.8	m	
	serviceChangeMethod	7.2.8	m	
	serviceChangeAddress	7.2.8	o	
	serviceChangeVersion	7.2.8	o	
	serviceChangeProfile	7.2.8	o	
	serviceChangeReason	7.2.8	o	
	serviceChangeDelay	7.2.8	o	
	serviceChangeMgcId	7.2.8	o	
	timestamp	7.2.8	o	
	nonStandardData	7.2.8	o	

Comments:

.....

A.8.3.4.2 Command Replies

Table A.20: Notify Command Reply sent by the MGC

Prerequisite: A.12/5

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.7	m	
2	Error Descriptor	7.2	m (note)	
NOTE:	Used, when the IUT detects an error while processing the received ServiceChange Command Request.			

Comments:

.....

Table A.21: Service Change Command Reply sent by the MGC

Prerequisite: A.12/6

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	Service Change Descriptor	7.2.8	m	
3	ServiceChangeMgcId	7.2.8	o	
4	ServiceChangeAddress	7.2.8	o	
5	ServiceChangeVersion	7.2.8	o	
6	ServiceChangeProfile	7.2.8	o	
7	Timestamp	7.2.8	o	
8	Error Descriptor	7.2	m (note)	
NOTE: Used, when the IUT detects an error while processing the received ServiceChange Command Request.				

Comments:

.....

A.8.4 H.248.1 messages and parameters received by the MGC

Tables in this subclause ask questions related to the supported content of the H.248.1 messages. Due to the modular structure of the H.248.1 protocol the H.248.1 messages consist of a levelled structure of request and reply messages (Transaction, Context and Command level) which includes different protocol parameters, various descriptors and/or parameters defined in packages. According to this modular structure the content of a H.248.1 message can strongly vary depending on the signalling purpose.

Indicating support for an item in the tables of this subclause states that the implementation has the ability to process the information elements or parameters listed in the received message. Such support does not necessarily mean that the indicated information element is included in every instance of the received message.

A.8.4.1 H.248.1 message content

Table A.22: H.248.1/MEGACO message PDU received by the MGC

Prerequisite: A.2/1

Item	PDU parameters	Reference	Status	Support
1	support of the protocol version number	8.3, Annex A and B	m	
2	support of an authentication header	10.2	c2201	
3	support of IP4 address	Annex A and B	o.4	
4	support of IP6 address	Annex A and B	o.4	
5	support of a domain name	Annex A and B	o.4	
6	support of a device name	Annex A and B	o.4	
7	support of a mtp address	Annex A and B	o.4	
8	support of a port number (see note)	Annex A and B	o	
9	at least one Transaction	8.3, Annex A and B	m	
10	more than one Transaction	8.3, Annex A and B	m	
11	support of Transaction Request	8.2.1	m	
12	support of Transaction Reply	8.2.2	m	
13	support of Transaction Pending	8.2.3	m	
14	support of Transaction ResponseAck	Annex D	c2202	
15	error descriptor	11.3, Annex A and B	m	
o.4: at least one of the items c2201: IF (the underlying IP networks supports IPv4 but not IPsec) then m IF (the underlying IP networks supports IPv4 and IPsec) then n/a IF (the underlying IP networks supports IPv6) then n/a IF (the underlying network is not an IP network) then n/a c2202: IF (A.3/3 OR A.4/3) then m otherwise o NOTE: This is a dynamically assigned port number, not the default port number.				

Comments:

.....

A.8.4.2 Transactions

Table A.23 Transaction Request received by the MGC

Prerequisite: A.22/11

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.1	m	
2	at least one Action Request	8.2.1	m	
3	more than one Action Request	8.2.1	m	

Comments:

.....

Table A.24: Transaction Reply received by the MGC

Prerequisite: A.22/12

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.2	m	
2	ImmAckRequired parameter is set	8.2.2	m	
3	Error Descriptor	8.2.2	m	
4	at least one Action Reply	8.2.2	m	
5	more than one Action Reply	8.2.2	m	

Comments:

Table A.25: Transaction Pending received by the MGC

Prerequisite: A.22/13

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.3	m	

Comments:

Table A.26: Transaction ResponseAck received by the MGC

Prerequisite: A.22/14

Item	Parameters	Reference	Status	Support
1	at least one Transaction ID for confirmation included	Annex A and B	m	
2	series of Transaction IDs for confirmation included	Annex A and B	m	

Comments:

A.8.4.3 Contexts

Table A.27: Action Request received by the MGC

Prerequisite: A. 23/2

Item	Parameters	Reference	Status	Support
1	Context ID (can be a wildcard Context ID)	8.1.2	m	
2	Topology Descriptor	6.1.1, 7.1.18	o	
3	Emergency Descriptor	6.1.1	o	
4	Priority Descriptor	6.1.1	o	
5	Audit request for the Context Descriptors	7.2.9	o	
6	At least one Command Request	8	m	
7	More than one Command Request	8	m	
8	Command Request: Notify	8, 7.2.7	o	
9	Command Request: ServiceChange	8, 7.2.8	m	

Comments:

Table A.28: Action Reply received by the MGC

Prerequisite: A.24/4

Item	Parameters	Reference	Status	Support
1	Context ID	8.1.2	m	
2	Error Descriptor	8	o.7	
3	at least one Command Reply	8	o.7	
4	more than one Command Reply	8	m	
5	Command Reply: Add	8, 7.2.1	m	
6	Command Reply: Modify	8, 7.2.2	m	
7	Command Reply: Subtract	8, 7.2.3	m	
8	Command Reply: Move	8, 7.2.4	m	
9	Command Reply: AuditValue	8, 7.2.5	m	
10	Command Reply: AuditCapabilities	8, 7.2.6	m	
11	Command Reply: ServiceChange	8, 7.2.8	m	
12	Topology Descriptor	6.1.1, 7.1.18	o	
13	Emergency Descriptor	6.1.1	o	
14	Priority Descriptor	6.1.1	o	

Comments:

A.8.4.4 Commands

A.8.4.4.1 Command Requests

Table A.29: Notify Command Request received by the MGC

Prerequisite: A.27/8

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.7	m	
2	ObservedEvents Descriptor	7.2.7	m	
3	Error Descriptor	7.2.7	o	

Comments:

Table A.30: ServiceChange Command Request received by the MGC

Prerequisite: A.27/9

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	ServiceChange Descriptor	7.2.8	m	
3	serviceChangeMethod	7.2.8	m	
4	serviceChangeAddress	7.2.8	o	
5	serviceChangeVersion	7.2.8	o	
6	serviceChangeProfile	7.2.8	o	
7	serviceChangeReason	7.2.8	o	
8	serviceChangeDelay	7.2.8	o	
9	serviceChangeMgcId	7.2.8	o	
10	timestamp	7.2.8	o	
11	nonStandardData	7.2.8	o	

Comments:

A.8.4.4.2 Command Replies

Table A.31: Add Command Reply received by the MGC

Prerequisite: A.28/5

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.1	m	
2	Media Descriptor	7.2.1	o	
3	Modem Descriptor	7.2.1	n/a	
4	Mux Descriptor	7.2.1	o	
5	Events Descriptor	7.2.1	o	
6	Signals Descriptor	7.2.1	o	
7	DigitMap Descriptor	7.2.1	o	
8	ObservedEvents Descriptor	7.2.1	o	
9	EventBuffer Descriptor	7.2.1	o	
10	Statistics Descriptor	7.2.1	o	
11	Packages Descriptor	7.2.1	o	
12	Error Descriptor	7.2	m	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.32: Modify Command Reply received by the MGC

Prerequisite: A.28/6

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.2	m	
2	Media Descriptor	7.2.2	o	
3	Modem Descriptor	7.2.2	n/a	
4	Mux Descriptor	7.2.2	o	
5	Events Descriptor	7.2.2	o	
6	Signals Descriptor	7.2.2	o	
7	DigitMap Descriptor	7.2.2	o	
8	ObservedEvents Descriptor	7.2.2	o	
9	EventBuffer Descriptor	7.2.2	o	
10	Statistics Descriptor	7.2.2	o	
11	Packages Descriptor	7.2.2	o	
12	Error Descriptor	7.2	m	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.33: Subtract Command Reply received by the MGC

Prerequisite: A.28/7

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.3	m	
2	Media Descriptor	7.2.3	n/a	
3	Modem Descriptor	7.2.3	o	
4	Mux Descriptor	7.2.3	o	
5	Events Descriptor	7.2.3	o	
6	Signals Descriptor	7.2.3	o	
7	DigitMap Descriptor	7.2.3	o	
8	ObservedEvents Descriptor	7.2.3	o	
9	EventBuffer Descriptor	7.2.3	o	
10	Statistics Descriptor	7.2.3	o	
11	Packages Descriptor	7.2.3	o	
12	Error Descriptor	7.2	m	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.34: Move Command Reply received by the MGC

Prerequisite: A.28/8

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.4	m	
2	Media Descriptor	7.2.4	o	
3	Modem Descriptor	7.2.4	n/a	
4	Mux Descriptor	7.2.4	o	
5	Events Descriptor	7.2.4	o	
6	Signals Descriptor	7.2.4	o	
7	DigitMap Descriptor	7.2.4	o	
8	ObservedEvents Descriptor	7.2.4	o	
9	EventBuffer Descriptor	7.2.4	o	
10	Statistics Descriptor	7.2.4	o	
11	Packages Descriptor	7.2.4	o	
12	Error Descriptor	7.2	m	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.35: AuditValue Command Reply received by the MGC

Prerequisite: A.28/9

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.5	m	
2	Media Descriptor	7.2.5	o	
3	Modem Descriptor	7.2.5	n/a	
4	Mux Descriptor	7.2.5	o	
5	Events Descriptor	7.2.5	o	
6	Signals Descriptor	7.2.5	o	
7	DigitMap Descriptor	7.2.5	o	
8	ObservedEvents Descriptor	7.2.5	o	
9	EventBuffer Descriptor	7.2.5	o	
10	Statistics Descriptor	7.2.5	o	
11	Packages Descriptor	7.2.5	o	
12	Error Descriptor	7.2	m	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.36: AuditCapabilities Command Reply received by the MGC

Prerequisite: A.28/10

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.6	m	
2	Media Descriptor	7.2.6	o	
3	Modem Descriptor	7.2.6	n/a	
4	Mux Descriptor	7.2.6	o	
5	Events Descriptor	7.2.6	o	
6	Signals Descriptor	7.2.6	o	
7	ObservedEvents Descriptor	7.2.6	o	
8	EventBuffer Descriptor	7.2.6	o	
9	Statistics Descriptor	7.2.6	o	
10	Error Descriptor	7.2	m	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.37: Service Change Command Reply received by the MGC

Prerequisite: A.28/11

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	Service Change Descriptor	7.2.8	m	
3	ServiceChangeMgclid	7.2.8	o	
4	ServiceChangeAddress	7.2.8	o	
5	ServiceChangeVersion	7.2.8	o	
6	ServiceChangeProfile	7.2.8	o	
7	Timestamp	7.2.8	o	

Comments:

A.8.5 H.248.1 descriptors structure

Table A.38: Media Descriptor

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	Termination State Descriptor	7.1.4	m	
2	at least one Stream Descriptor (see note)	7.1.4	o.5	
3	Local Control, Local and Remote descriptors included without an enclosing Stream Descriptor	7.1.4	o.5	
4	more than one Stream descriptor (see note)	7.1.4	o	
o.5: at least one of the items				
NOTE: If a Stream Descriptor is included in the Media Descriptor, then the Local Control, Local and Remote Descriptors shall be within the Stream descriptor.				

Comments:

.....

Table A.39: Termination State Descriptor

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	termination properties	7.1.5	o	
2	parameter EventBufferControl	7.1.9	o	
3	service state	7.1.5	o	

Comments:

.....

Table A.40: Stream Descriptor

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	support of Stream IDs for bi-directional media stream	7.1.6	m	
2	Local Control Descriptor	7.1.6	m	
3	Local Descriptor	7.1.6	m	
4	Remote Descriptor	7.1.6	m	

Comments:

.....

Table A.41: Local Descriptor

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	use of SDP protocol (RFC 2327 [6]) in case of text encoding in case of binary encoding	7.1.8	c4101	
2	use of tag - value pairs (H.248.1 annex C)	7.1.8	c4102	
c4101: IF A.2/9 then m, otherwise n/a				
c4102: IF A.2/10 then m, otherwise n/a				
NOTE: This is the default value in case of re-writable parameters.				

Comments:

.....

Table A.42: Remote Descriptor

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	use of SDP protocol (RFC 2327 [6]) in case of text encoding	7.1.8	c4201	
2	use of tag - value pairs (H.248.1 annex C) in case of binary encoding	7.1.8	c4202	
c4201: IF A.2/9 then m, otherwise n/a				
c4202: IF A.2/10 then m, otherwise n/a				

Comments:

Table A.43: Local Control Descriptor

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	value for stream mode properties is supported (sendOnly, recvOnly, sendRecv, inactive, loopBack)	7.1.7	m	
2	BOOLEAN Value Reserve Group is supported (TRUE/FALSE)	7.1.7	m	
3	BOOLEAN Value Reserve Value is supported (TRUE/FALSE)	7.1.7	m	
4	support of properties	7.1.7	o	

Comments:

A.8.6 Timers and Parameters

A.8.6.1 Timers

Table A.44: Supported timers

Prerequisite:

Item	PDU parameters	Reference	Status	Support
1	Transaction Timer	7.2.1	c4401	
2	LONG TIMER	Annex D	c4402	
c4401: IF A.2/20 then m ELSE n/a				
c4402: IF (A.3/2 OR A.4/2) then m ELSE n/a				
NOTE: This is the default value in case of re-writable parameters.				

Comments:

A.9 Media Gateway

A.9.1 Major capabilities

Table A.45: Major capabilities of MG

Item	properties of the IUT	Reference	Status	Support
1	supports the concept of H.248.1 messages	8.3	m	
2	supports the concept of Transactions	8	m	
3	supports the concept of Contexts	6.1	m	
4	supports the concept of Terminations	6.2	m	
5	supports the concept of Commands applying to Terminations	7	m	
6	support of ordered command processing	8	m	
7	supports the concept of Descriptors applying to Contexts and Terminations	6.2.4, 7.1	m	
8	supports the concept of Packages to characterize Terminations	6.2.3, Annexes	m	
9	supports binary encoding	7.2.10, Annex A	o.6	
10	supports text encoding	7.2.10, Annex B	o.6	
11	supports the wildcard mechanism for Context IDs and Termination Ids	8.1.2, 6.2.2, 6.3	m	
12	support of the default port number	9	o	
13	supports message transport using TCP/IP	9	o.7	
14	supports message transport using UDP/IP	9	o.7	
15	can process overspecified parameters according to the protocol rules	7.1.1	m	
16	can process underspecified parameters according to the protocol rules	7.1.1	m	
17	support of the procedures for a cold start	11.2	m	
18	support of the procedures to negotiate the protocol version	11.3	m	
19	supports protection against restart avalanche	9.2	o	
20	supports transaction timer	8	o	
o.6:	at least one of the items			
o.7:	at least one of the items			

Comments:

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A.9.2 Subsidiary capabilities

A.9.2.1 Support of annexes/Packages

Mandatory elements in subsequent tables of this clause shall be implemented whereas elements marked as optional are real implementation options.

A.9.2.1.1 H.248.1 annex C: Tags for Media Stream Properties

Table A.46: Support of H.248.1 annex C

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of tags for general media attributes	C.1	o	
2	support of tags for MUX properties	C.2	o	
3	support of tags for general bearer properties	C.3	o	
4	support of tags for general ATM properties	C.4	o	
5	support of tags for frame relay	C.5	o	
6	support of tags for IP	C.6	o	
7	support of tags for ATM AAL2	C.7	o	
8	support of tags for ATM AAL1	C.8	o	
9	support of tags for bearer capabilities TMR	C.9	o	
10	support of tags for AAL5 properties	C.10	o	
11	support of tags for SDP equivalents	C.11	o	
12	support of tags for H.245	C.12	o	

Comments:

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Table A.47-1: Support of H.248.1 annex C: General media attributes

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: Media	C.1	o	
2	support of property: Transmission mode	C.1	o	
3	support of property: Number of Channels	C.1	o	
4	support of property: Sampling rate	C.1	o	
5	support of property: Bitrate	C.1	o	
6	support of property: ACodec	C.1	o	
7	support of property: Samplepp	C.1	o	
8	support of property: Silencesupp	C.1	o	
9	support of property: Encrypttype	C.1	o	
10	support of property: Encryptkey	C.1	o	
11	support of property: Echocanc	C.1	o	
12	support of property: Gain	C.1	o	
13	support of property: Jitterbuff	C.1	o	
14	support of property: PropDelay	C.1	o	
15	support of property: RTPpayload	C.1	o	

Comments:

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Table A.47-2: Support of H.248.1 annex C: Mux properties

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: H222	C.2	o	
2	support of property: H223	C.2	o	
3	support of property: V76	C.2	o	
4	support of property: H2250	C.2	o	

Comments:

Table A.47-3: Support of H.248.1 annex C: General bearer properties

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: Mediatx	C.3	o	
2	support of property: BIR	C.3	o	
3	support of property: NSAP	C.3	o	

Comments:

Table A.47-4: Support of H.248.1 annex C: General ATM properties

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: AESA	C.4	o	
2	support of property: VPVC	C.4	o	
3	support of property: SC	C.4	o	
4	support of property: BCOB	C.4	o	
5	support of property: BBTC	C.4	o	
6	support of property: ATC	C.4	o	
7	support of property: STC	C.4	o	
8	support of property: UPCC	C.4	o	
9	support of property: PCR0	C.4	o	
10	support of property: SCR0	C.4	o	
11	support of property: MBS0	C.4	o	
12	support of property: PCR1	C.4	o	
13	support of property: SCR1	C.4	o	
14	support of property: MBS1	C.4	o	
15	support of property: BEI	C.4	o	
16	support of property: TI	C.4	o	
17	support of property: FD	C.4	o	
18	support of property: A2PCDV	C.4	o	
19	support of property: C2PCDV	C.4	o	
20	support of property: APPCDV	C.4	o	
21	support of property: CPPCDV	C.4	o	
22	support of property: ACLR	C.4	o	
23	support of property: MEETD	C.4	o	
24	support of property: CEETD	C.4	o	
25	support of property: QosClass	C.4	o	
26	support of property: AALtype	C.4	o	

Comments:

Table A.47-5: Support of H.248.1 annex C: Frame relay

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: DLCI	C.5	o	
2	support of property: CID	C.5	o	
3	support of property: SID/Noiselevel	C.5	o	
4	support of property: Primary Payload	C.5	o	

Comments:

Table A.47-6: Support of H.248.1 annex C: IP

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: IPv4	C.6	o	
2	support of property: ipv6	C.6	o	
3	support of property: Port	C.6	o	
4	support of property: PortType	C.6	o	

Comments:

Table A.47-7: Support of H.248.1 annex C: ATM AAL2

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: AESA	C.7	o	
2	support of property: BIR	C.7	o	
3	support of property: ALC	C.7	o	
4	support of property: SSCS	C.7	o	
5	support of property: SUT	C.7	o	
6	support of property: TCI	C.7	o	
7	support of property: Timer_CU	C.7	o	
8	support of property: MaxCPSSDU	C.7	o	
9	support of property: CID	C.7	o	

Comments:

Table A.47-8: Support of H.248.1 annex C: ATM AAL1

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: BIR	C.8	o	
2	support of property: AALIST	C.8	o	
3	support of property: CBRR	C.8	o	
4	support of property: MULT	C.8	o	
5	support of property: SCRI	C.8	o	
6	support of property: ECM	C.8	o	
7	support of property: SDTB	C.8	o	
8	support of property: PFCI	C.8	o	

Comments:

Table A.47-9: Support of H.248.1 annex C: Bearer capabilities

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: TMR	C.9	o	
2	support of property: TMRSR	C.9	o	
3	support of property: Contcheck	C.9	o	
4	support of property: ITC	C.9	o	
5	support of property: TransMode	C.9	o	
6	support of property: TransRate	C.9	o	
7	support of property: MULT	C.9	o	
8	support of property: layer1prot	C.9	o	
9	support of property: syncasync	C.9	o	
10	support of property: negotiation	C.9	o	
11	support of property: Userrate	C.9	o	
12	support of property: INTRATE	C.9	o	
13	support of property: nictx	C.9	o	
14	support of property: nicrx	C.9	o	
15	support of property: flowconttx	C.9	o	
16	support of property: flowcontrx	C.9	o	
17	support of property: rateadapthdr	C.9	o	
18	support of property: multiframe	C.9	o	
19	support of property: OPMODE	C.9	o	
20	support of property: llidnegot	C.9	o	
21	support of property: assign	C.9	o	
22	support of property: inbandneg	C.9	o	
23	support of property: stopbits	C.9	o	
24	support of property: databits	C.9	o	
25	support of property: parity	C.9	o	
26	support of property: duplex mode	C.9	o	
27	support of property: modem	C.9	o	
28	support of property: layer2prot	C.9	o	
29	support of property: layer3prot	C.9	o	
30	support of property: addlayer3prot	C.9	o	
31	support of property: DialledN	C.9	o	
32	support of property: DiallingN	C.9	o	
33	support of property: ECHOCI	C.9	o	
34	support of property: NCI	C.9	o	
35	support of property: USI	C.9	o	

Comments:

Table A.47-10: Support of H.248.1 annex C: AAL5 properties

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: FMSSDU	C.10	o	
2	support of property: BMSDU	C.10	o	
3	support of property: SSCS	C.10	o	

Comments:

Table A.47-11: Support of H.248.1 annex C: SDP equivalents

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: SDP_V	C.11	o	
2	support of property: SDP_O	C.11	o	
3	support of property: SDP_S	C.11	o	
4	support of property: SDP_I	C.11	o	
5	support of property: SDP_U	C.11	o	
6	support of property: SDC_E	C.11	o	
7	support of property: SDP_P	C.11	o	
8	support of property: SDP_C	C.11	o	
9	support of property: SDP_B	C.11	o	
10	support of property: SDP_Z	C.11	o	
11	support of property: SDP_K	C.11	o	
12	support of property: SDP_A	C.11	o	
13	support of property: SDP_T	C.11	o	
14	support of property: SDP_R	C.11	o	
15	support of property: SDP_M	C.11	o	

Comments:

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Table A.47-12: Support of H.248.1 annex C: H.245

Prerequisite: A.45/7 and A.45/9

Item	Description	Reference	Status	Support
1	support of property: OLC	C.12	o	
2	support of property: OLCack	C.12	o	
3	support of property: OLCcnf	C.12	o	
4	support of property: OLCrej	C.12	o	
5	support of property: CLC	C.12	o	
6	support of property: CLCack	C.12	o	

Comments:

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A.9.2.1.2 H.248.1 annex D: Transport over IP

A.9.2.1.2.1 Transport over IP/UDP

Table A.47-13: Support of H.248.1 annex D.1

Prerequisite: A.45/14

Item	Description	Reference	Status	Support
1	providing an 'at-most-once' functionality	D.1.1	m	
2	support of the LONG-TIMER	D.1.1	m	
3	support of the three-way handshake mechanism	D.1.2.2	m	
4	use of immAckRquired parameter in the final response (Transaction reply) in case of sending provisional responses (Transaction pending) before	D.1.4	m	

Comments:

.....

A.9.2.1.2.2 Transport over IP/TCP

Table A.48: Support of H.248.1 annex D.2

Prerequisite: A.45/14

Item	Description	Reference	Status	Support
1	providing an "at-most-once" functionality	D.2.1	o	
2	support of the LONG-TIMER	D.2.1	o	
3	support of the three-way handshake mechanism	D.2.2	o	

Comments:

A.9.2.1.3 H.248.1 annex E: Basic Packages

Table A.49: Support of H.248.1 annex E

Prerequisite: A.45/8

Item	Description	Reference	Status	Support
1	support of Generic Package	E.1	o	
2	support of Base Root Package	E.2	o	
3	support of Tone Generator Package	E.3	o	
4	support of Tone Detection Package	E.4	o	
5	support of Basic DTMF Generator Package	E.5	o	
6	support of DTMF Detection Package	E.6	o	
7	support of Call Progress Tones Generator Package	E.7	o	
8	support of Call Progress Tone Detection Package	E.8	o	
9	support of Analog Line Supervision Package	E.9	o	
10	support of Basic Continuity Package	E.10	o	
11	support of Network Package	E.11	o	
12	support of RTP Package	E.12	o	
13	support of TDM Circuit Package	E.13	o	

Comments:

A.9.3 H.248.1 messages and parameters sent by the MG

Tables in this subclause ask questions related to the supported content of the H.248.1 messages. Due to the modular structure of the H.248.1 protocol the H.248.1 messages consist of a levelled structure of request and reply messages (Transaction, Context and Command level) which includes different protocol parameters, various descriptors and/or parameters defined in packages. According to this modular structure the content of a H.248.1 message can strongly vary depending on the signalling purpose.

Indicating support for an item in the tables of this subclause states that the implementation has the ability to generate and transmit the information elements or parameters listed. Such support does not necessarily mean that the indicated information element is included in every instance of the transmitted message.

A.9.3.1 H.248.1 message content

Table A.50: H.248.1/MEGACO message content sent by the MG

Prerequisite: A.45/1

Item	PDU parameters	Reference	Status	Support
1	support of the protocol version number	8.3, Annex A and B	m	
2	support of an authentication header	10.2	c5001	
3	support of IP4 address	Annex A and B	o.8	
4	support of IP6 address	Annex A and B	o.8	
5	support of a domain name	Annex A and B	o.8	
6	support of a device name	Annex A and B	o.8	
7	support of a mtp address	Annex A and B	o.8	
8	support of a port number (see note)	Annex A and B	o	
9	at least one Transaction	8.3, Annex A and B	m	
10	more than one Transaction	8.3, Annex A and B	o	
11	support of Transaction Request	8.2.1	m	
12	support of Transaction Reply	8.2.2	m	
13	support of Transaction Pending	8.2.3	m	
14	support of Transaction ResponseAck	Annex D	c5002	
15	error descriptor	11.3, Annex A and B	m	
o.8: at least one of the items c5001: IF (the underlying IP networks supports IPv4 but not IPsec) then m IF (the underlying IP networks supports IPv4 and IPsec) then n/a IF (the underlying IP networks supports IPv6) then n/a IF (the underlying network is not an IP network) then n/a c5001: IF (A.47/3 OR A.48/3) then m otherwise o NOTE: This is a dynamically assigned port number, not the default port number.				

Comments:

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A.9.3.2 Transactions

Table A.51 Transaction Request sent by the MG

Prerequisite: A.50/11

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.1	m	
2	at least one Action Request	8.2.1	m	
3	more than one Action Request	8.2.1	o	

Comments:

.....

Table A.52: Transaction Reply sent by the MG

Prerequisite: A.50/12

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.2	m	
2	ImmAckRequired parameter is set	8.2.2	c5201	
3	Error Descriptor	8.2.2	m	
4	at least one Action Reply	8.2.2	m	
5	more than one Action Reply	8.2.2	o	
c5201: IF (A.45/13) then m, IF (A.45/12) then o				

Comments:

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Table A.53: Transaction Pending sent by the MG

Prerequisite: A.50/13

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.3	m	

Comments:

.....

Table A.54: Transaction ResponseAck sent by the MG

Prerequisite: A.50/14

Item	Parameters	Reference	Status	Support
1	at least one Transaction ID for confirmation included	Annex A, B, and D.1.2.2	m	
2	series of Transaction IDs for confirmation included	Annex A, B, and D.1.2.2	o	

Comments:

.....

A.9.3.3 Contexts

Table A.55: Action Request sent by the MG

Prerequisite: A.51/2

Item	Parameters	Reference	Status	Support
1	Context ID (can be a wildcard Context ID)	6.1.1, 8.1.2	m	
2	Topology Descriptor	6.1.1, 7.1.18	o	
3	Emergency Descriptor	6.1.1	o	
4	Priority Descriptor	6.1.1	o	
5	audit request for the Context Descriptors	7.2.9	o	
6	at least one Command Request	8	m	
7	more than one Command Request	8	o	
8	Command Request: Notify	8, 7.2.7	o	
9	Command Request: ServiceChange	8, 7.2.8	m	

Comments:

.....

Table A.56: Action Reply sent by the MG

Prerequisite: A.52/4

Item	Parameters	Reference	Status	Support
1	Context ID	8.1.2	m	
2	Error Descriptor	8	m	
3	at least one Command Reply	8	m	
4	more than one Command Reply	8	o	
5	Command Reply: Add	8, 7.2.1	m	
6	Command Reply: Modify	8, 7.2.2	m	
7	Command Reply: Subtract	8, 7.2.3	m	
8	Command Reply: Move	8, 7.2.4	m	
9	Command Reply: AuditValue	8, 7.2.5	m	
10	Command Reply: AuditCapabilities	8, 7.2.6	m	
11	Command Reply: ServiceChange	8, 7.2.8	m	
12	Topology Descriptor	6.1.1, 7.1.18	o	
13	Emergency Descriptor	6.1.1	o	
14	Priority Descriptor	6.1.1	o	

Comments:

A.9.3.4 Commands

A.9.3.4.1 Command Requests

Table A.57: Notify Command Request sent by the MG

Prerequisite: A.55/8

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.7	m	
2	ObservedEvents Descriptor	7.2.7	m	
3	Error Descriptor	7.2.7	o	

Comments:

Table A.58: ServiceChange Command Request sent by the MG

Prerequisite: A.55/9

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	ServiceChange Descriptor	7.2.8	m	
3	serviceChangeMethod	7.2.8	m	
	serviceChangeAddress	7.2.8	o	
	serviceChangeVersion	7.2.8	o	
	serviceChangeProfile	7.2.8	o	
	serviceChangeReason	7.2.8	o	
	serviceChangeDelay	7.2.8	o	
	serviceChangeMgcId	7.2.8	o	
	timestamp	7.2.8	o	
	nonStandardData	7.2.8	o	

Comments:

A.9.3.4.2 Command Replies

Table A.59: Add Command Reply sent by the MG

Prerequisite: A.56/5

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.1	m	
2	Media Descriptor	7.2.1	o	
3	Modem Descriptor	7.2.1	n/a	
4	Mux Descriptor	7.2.1	o	
5	Events Descriptor	7.2.1	o	
6	Signals Descriptor	7.2.1	o	
7	DigitMap Descriptor	7.2.1	o	
8	ObservedEvents Descriptor	7.2.1	o	
9	EventBuffer Descriptor	7.2.1	o	
10	Statistics Descriptor	7.2.1	o	
11	Packages Descriptor	7.2.1	o	
12	Error Descriptor	7.2	m (note)	
NOTE: Error Descriptor is used, when the IUT detects an error while processing the received Add Command Request Modem Descriptor has been deprecated in H.248.1 version 2 [1].				

Comments:

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Table A.60: Modify Command Reply sent by the MG

Prerequisite: A.56/6

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.2	m	
2	Media Descriptor	7.2.2	o	
3	Modem Descriptor	7.2.2	n/a	
4	Mux Descriptor	7.2.2	o	
5	Events Descriptor	7.2.2	o	
6	Signals Descriptor	7.2.2	o	
7	DigitMap Descriptor	7.2.2	o	
8	ObservedEvents Descriptor	7.2.2	o	
9	EventBuffer Descriptor	7.2.2	o	
10	Statistics Descriptor	7.2.2	o	
11	Packages Descriptor	7.2.2	o	
12	Error Descriptor	7.2	m (note)	
NOTE: Error Descriptor is used, when the IUT detects an error while processing the received Add Command Request Modem Descriptor has been deprecated in H.248.1 version 2 [1].				

Comments:

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Table A.61: Subtract Command Reply sent by the MG

Prerequisite: A.56/7

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.3	m	
2	Media Descriptor	7.2.3	o	
3	Modem Descriptor	7.2.3	n/a	
4	Mux Descriptor	7.2.3	o	
5	Events Descriptor	7.2.3	o	
6	Signals Descriptor	7.2.3	o	
7	DigitMap Descriptor	7.2.3	o	
8	ObservedEvents Descriptor	7.2.3	o	
9	EventBuffer Descriptor	7.2.3	o	
10	Statistics Descriptor	7.2.3	o	
11	Packages Descriptor	7.2.3	o	
12	Error Descriptor	7.2	m (note)	
NOTE: Error Descriptor is used, when the IUT detects an error while processing the received Add Command Request Modem Descriptor has been deprecated in H.248.1 version 2 [1].				

Comments:

Table A.62: Move Command Reply sent by the MG

Prerequisite: A.56/8

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.4	m	
2	Media Descriptor	7.2.4	o	
3	Modem Descriptor	7.2.4	n/a	
4	Mux Descriptor	7.2.4	o	
5	Events Descriptor	7.2.4	o	
6	Signals Descriptor	7.2.4	o	
7	DigitMap Descriptor	7.2.4	o	
8	ObservedEvents Descriptor	7.2.4	o	
9	EventBuffer Descriptor	7.2.4	o	
10	Statistics Descriptor	7.2.4	o	
11	Packages Descriptor	7.2.4	o	
12	Error Descriptor	7.2	m (note)	
NOTE: Error Descriptor is used, when the IUT detects an error while processing the received Add Command Request Modem Descriptor has been deprecated in H.248.1 version 2 [1].				

Comments:

Table A.63: AuditValue Command Reply sent by the MG

Prerequisite: A.56/9

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.5	m	
2	Media Descriptor	7.2.5	o	
3	Modem Descriptor	7.2.5	n/a	
4	Mux Descriptor	7.2.5	o	
5	Events Descriptor	7.2.5	o	
6	Signals Descriptor	7.2.5	o	
7	DigitMap Descriptor	7.2.5	o	
8	ObservedEvents Descriptor	7.2.5	o	
9	EventBuffer Descriptor	7.2.5	o	
10	Statistics Descriptor	7.2.5	o	
11	Packages Descriptor	7.2.5	o	
12	Error Descriptor	7.2	m (note)	
NOTE: Error Descriptor is used, when the IUT detects an error while processing the received Add Command Request Modem Descriptor has been deprecated in H.248.1 version 2 [1].				

Comments:

Table A.64: AuditCapabilities Command Reply sent by the MG

Prerequisite: A.56/10

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.6	m	
2	Media Descriptor	7.2.6	o	
3	Modem Descriptor	7.2.6	n/a	
4	Mux Descriptor	7.2.6	o	
5	Events Descriptor	7.2.6	o	
6	Signals Descriptor	7.2.6	o	
7	ObservedEvents Descriptor	7.2.6	o	
8	EventBuffer Descriptor	7.2.6	o	
9	Statistics Descriptor	7.2.6	o	
10	Error Descriptor	7.2	m (note)	
NOTE: Error Descriptor is used, when the IUT detects an error while processing the received Add Command Request Modem Descriptor has been deprecated in H.248.1 version 2 [1].				

Comments:

Table A.65: ServiceChange Command Reply sent by the MG

Prerequisite: A.56/11

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	Service Change Descriptor	7.2.8	m	
3	ServiceChangeMgclid	7.2.8	o	
4	ServiceChangeAddress	7.2.8	o	
5	ServiceChangeVersion	7.2.8	o	
6	ServiceChangeProfile	7.2.8	o	
7	Timestamp	7.2.8	o	
8	Error Descriptor	7.2	m (note)	

NOTE: Used, when the IUT detects an error while processing the received Add Command Request.

Comments:

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A.9.4 H.248.1 messages and parameters received by the MG

Tables in this subclause ask questions related to the supported content of the H.248.1 messages. Due to the modular structure of the H.248.1 protocol the H.248.1 messages consist of a levelled structure of request and reply messages (Transaction, Context and Command level) which includes different protocol parameters, various descriptors and/or parameters defined in packages. According to this modular structure the content of a H.248.1 message can strongly vary depending on the signalling purpose.

Indicating support for an item in the tables of this subclause states that the implementation has the ability to process the information elements or parameters listed in the received message. Such support does not necessarily mean that the indicated information element is included in every instance of the received message.

A.9.4.1 H.248.1 message content

Table A.66: H.248.1/MEGACO message content received by the MG

Prerequisite: A.45/1

Item	Parameters	Reference	Status	Support
1	support of the protocol version number	8.3, Annex A and B	m	
2	support of an authentication header	10.2	c6601	
3	support of IP4 address	Annex A and B	o.9	
4	support of IP6 address	Annex A and B	o.9	
5	support of a domain name	Annex A and B	o.9	
6	support of a device name	Annex A and B	o.9	
7	support of a mtp address	Annex A and B	o.9	
8	support of a port number (see note)	Annex A and B	o	
9	at least one Transaction	8.3, Annex A and B	m	
10	more than one Transaction	8.3, Annex A and B	o	
11	support of Transaction Request	8.2.1	m	
12	support of Transaction Reply	8.2.2	m	
13	support of Transaction Pending	8.2.3	m	
14	support of Transaction ResponseAck	Annex D	m	
15	error descriptor	11.3, Annex A and B	m	
o.9: at least one of the items c6601: IF (the underlying IP networks supports IPv4 but not IPsec) then m IF (the underlying IP networks supports IPv4 and IPsec) then n/a IF (the underlying IP networks supports IPv6) then n/a IF (the underlying network is not an IP network) then n/a NOTE: This is a dynamically assigned port number, not the default port number				

Comments:

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A.9.4.2 Transactions

Table A.67 Transaction Request received by the MG

Prerequisite: A.66/11

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.1	m	
2	at least one Action Request	8.2.1	m	
3	more than one Action Request	8.2.1	o	

Comments:

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Table A.68: Transaction Reply received by the MG

Prerequisite: A.66/12

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.2	m	
2	ImmAckRequired parameter is set	8.2.2	c6801	
3	Error Descriptor	8.2.2	m	
4	at least one Action Reply	8.2.2	m	
5	more than one Action Reply	8.2.2	o	
c6801: IF (A.45/13) then m, IF (A.45/12) then o				

Comments:

.....

Table A.69: Transaction Pending received by the MG

Prerequisite: A.66/13

Item	Parameters	Reference	Status	Support
1	Transaction ID	8.2.3	m	

Comments:

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Table A.70: Transaction ResponseAck received by the MG

Prerequisite: A.66/14

Item	Parameters	Reference	Status	Support
1	at least one Transaction ID for confirmation included	Annex A and B	m	
2	series of Transaction IDs for confirmation included	Annex A and B	o	

Comments:

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A.9.4.3 Contexts

Table A.71: Action Request received by the MG

Prerequisite: A.67/2

Item	Parameters	Reference	Status	Support
1	Context ID (can be a wildcard Context ID)	8.1.2	m	
2	Topology Descriptor	6.1.1, 7.1.18	o	
3	Emergency Descriptor	6.1.1	o	
4	Priority Descriptor	6.1.1	o	
5	audit request for the Context Descriptors	7.2.9	o	
6	at least one Command Request	8	m	
7	more than one Command Request	8	o	
8	Command Request: Add	8, 7.2.1	m	
9	Command Request: Modify	8, 7.2.2	m	
10	Command Request: Subtract	8, 7.2.3	m	
11	Command Request: Move	8, 7.2.4	o	
12	Command Request: AuditValue	8, 7.2.5	o	
13	Command Request: AuditCapabilities	8, 7.2.6	o	
14	Command Request: ServiceChange	8, 7.2.8	m	

Comments:

.....

Table A.72: Action Reply received by the MG

Prerequisite: A.68/4

Item	Parameters	Reference	Status	Support
1	Context ID	8.1.2	m	
2	Error Descriptor	8	m	
3	at least one Command Reply	8	m	
4	Command Reply: Notify	8, 7.2.7	m	
5	Command Reply: ServiceChange	8, 7.2.8	m	
6	Topology Descriptor	6.1.1, 7.1.18	o	
7	Emergency Descriptor	6.1.1	o	
8	Priority Descriptor	6.1.1	o	

Comments:

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A.9.4.4 Commands

A.9.4.4.1 Command Requests

Table A.73: Add Command Request received by the MG

Prerequisite: A.71/8

Item	Parameters	Reference	Status	Support
1	Termination ID (can be a wildcard Termination ID)	7.2.1	m	
2	Media Descriptor	7.2.1	o	
3	Modem Descriptor	7.2.1	n/a	
4	Mux Descriptor	7.2.1	o	
5	Events Descriptor	7.2.1	o	
6	EventBufferDescriptor	7.2.1	o	
7	Signals Descriptor	7.2.1	o	
8	DigitMap Descriptor	7.2.1	o	
9	Audit Descriptor	7.2.1	o	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

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Table A.74: Modify Command Request received by the MG

Prerequisite: A.71/9

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.2	m	
2	Media Descriptor	7.2.2	o	
3	Modem Descriptor	7.2.2	n/a	
4	Mux Descriptor	7.2.2	o	
5	Events Descriptor	7.2.2	o	
6	EventBufferDescriptor	7.2.2	o	
7	Signals Descriptor	7.2.2	o	
8	DigitMap Descriptor	7.2.2	o	
9	Audit Descriptor	7.2.2	o	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

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Table A.75: Substract Command Request received by the MG

Prerequisite: A.71/10

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.3	m	
2	Audit Descriptor	7.2.3	o	

Comments:

.....

Table A.76: Move Command Request received by the MG

Prerequisite: A.71/11

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.4	m	
2	Media Descriptor	7.2.4	o	
3	Modem Descriptor	7.2.4	n/a	
4	Mux Descriptor	7.2.4	o	
5	Events Descriptor	7.2.4	o	
6	EventBufferDescriptor	7.2.4	o	
7	Signals Descriptor	7.2.4	o	
8	DigitMap Descriptor	7.2.4	o	
9	Audit Descriptor	7.2.4	o	

NOTE: Modem Descriptor has been deprecated in H.248.1 version 2 [1].

Comments:

Table A.77: Audit Command Request received by the MG

Prerequisite: A.71/12

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.5	m	
2	Audit Descriptor	7.2.5	m	

Comments:

Table A.78: AuditCapabilities Command Request received by the MG

Prerequisite: A.71/13

Item	Parameters	Reference	Status	Support
1	Termination ID (wildcard CHOOSE shall not be used for the Termination ID)	7.2.6	m	
2	Audit Descriptor	7.2.6	m	

Comments:

Table A.79: ServiceChange Command Request received by the MG

Prerequisite: A.71/14

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	ServiceChange Descriptor	7.2.8	m	
3	serviceChangeMethod	7.2.8	m	
4	serviceChangeAddress	7.2.8	o	
5	serviceChangeVersion	7.2.8	o	
6	serviceChangeProfile	7.2.8	o	
7	serviceChangeReason	7.2.8	o	
8	serviceChangeDelay	7.2.8	o	
9	serviceChangeMgclid	7.2.8	o	
10	timestamp	7.2.8	o	
11	nonStandardData	7.2.8	o	

Comments:

A.9.4.4.2 Command Replies

Table A.80: Notify Command Reply received by the MG

Prerequisite: A.72/4

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.7	m	
2	Error Descriptor	7.2	m	

Comments:

Table A.81: ServiceChange Command Reply received by the MG

Prerequisite: A.72/5

Item	Parameters	Reference	Status	Support
1	Termination ID	7.2.8	m	
2	Service Change Descriptor	7.2.8	m	
3	serviceChangeMgclid	7.2.8	o	
4	serviceChangeAddress	7.2.8	o	
5	serviceChangeVersion	7.2.8	o	
6	serviceChangeProfile	7.2.8	o	
7	timestamp	7.2.8	o	
8	Error Descriptor	7.2	m	

Comments:

A.9.5 H.248.1 descriptors structure

Table A.82: Media Descriptor

Prerequisite:

Item	Parameters	Reference	Status	Support
1	Termination State Descriptor	7.1.4	m	
2	at least one Stream Descriptor (see note)	7.1.4	o.10	
3	Local Control, Local and Remote Descriptor included without an enclosing Stream Descriptor	7.1.4	o.10	
4	more than one Stream descriptor (see note)	7.1.4	o	
o.10: at least one of the items				
NOTE: If a Stream Descriptor is included in the Media Descriptor, then the Local Control, Local and Remote Descriptors shall be within the Stream descriptor.				

Comments:

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Table A.83: Termination State Descriptor

Prerequisite:

Item	Parameters	Reference	Status	Support
1	termination properties	7.1.5	o	
2	parameter EventBufferControl	7.1.9	o	
3	service state parameter is set (test, out of service, in service)	7.1.5	o	

Comments:

.....

Table A.84: Stream Descriptor

Prerequisite:

Item	Parameters	Reference	Status	Support
1	support of Stream IDs for bi-directional media stream	7.1.6	m	
2	Local Control Descriptor	7.1.6	m	
3	Local Descriptor	7.1.6	m	
4	Remote Descriptor	7.1.6	m	

Comments:

.....

Table A.85: Local Descriptor

Prerequisite:

Item	Parameters	Reference	Status	Support
1	use of SDP protocol (RFC 2327 [6]) in case of text encoding in case of binary encoding	7.1.8	c8501	
2	use of tag - value pairs (H.248.1 annex C)	7.1.8	c8502	
c8501: IF A.45/9 then m, otherwise n/a				
c8502: IF A.45/10 then m, otherwise n/a				

Comments:

.....

Table A.86: Remote Descriptor

Prerequisite:

Item	Parameters	Reference	Status	Support
1	use of SDP protocol (RFC 2327 [6]) in case of text encoding	7.1.8	c8601	
2	use of tag - value pairs (H.248.1 annex C) in case of binary encoding	7.1.8	c8602	
c8601: IF A.45/9 then m, otherwise n/a				
c8602: IF A.45/10 then m, otherwise n/a				

Comments:

Table A.87: Local Control Descriptor

Prerequisite:

Item	Parameters	Reference	Status	Support
1	value for stream mode properties is supported (sendOnly, recvOnly, sendRecv, inactive, loopBack)	7.1.7	m	
2	BOOLEAN Value Reserve Group is supported (TRUE/FALSE)	7.1.7	m	
3	BOOLEAN Value Reserve Value is supported (TRUE/FALSE)	7.1.7	m	
4	support of properties	7.1.7	o	

Comments:

A.9.6 Timers and Parameters

A.9.6.1 Timers

Table A.88: Supported timers

Prerequisite:

Item	Parameters	Reference	Status	Value (ms) (see note)
1	Transaction Timer	7.2.1	c8801	
2	LONG TIMER	Annex D	c8802	
3	NormalMGExecutionTime	E.2.1	c8803	
4	NormalMGCExecutionTime	E.2.1	c8803	
5	MGProvisionalResponseTimerValue	E.2.1	c8803	
6	MGCProvisionalResponseTimerValue	E.2.1	c8803	
7	Maximum Jitter Buffer	E.11.1	c8804	
c8801: IF A.45/20 then m ELSE n/a				
c8802: IF (A.47/2 OR A.48/2) then m ELSE n/a				
c8803: IF A.49/2 then m ELSE n/a				
c8804: IF A.49/11 then m ELSE n/a				
NOTE: This is the default value in case of re-writable parameters.				

Comments:

A.9.6.2 IUT Parameters

Table A.89: Supported parameters

Prerequisite:

Item	Parameters	Reference	Status	Value (see note)
1	MaxNrOfContexts (1 and up)	E.2.1	c8901	
2	MaxTerminationsPerContext	E.2.1	c8901	
3	MGCOriginatedPendingLimit	E.2.1	c8901	
4	MGOOriginatedPendingLimit	E.2.1	c8901	
5	Echo cancellation	E.13.1	c8902	
6	Gain Control	E.13.1	c8902	
c8901: IF A.49/2 then m ELSE n/a				
c8902: IF A.49/13 then m ELSE n/a				
NOTE: This is the default value in case of re-writable parameters.				

Comments:

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History

Document history		
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