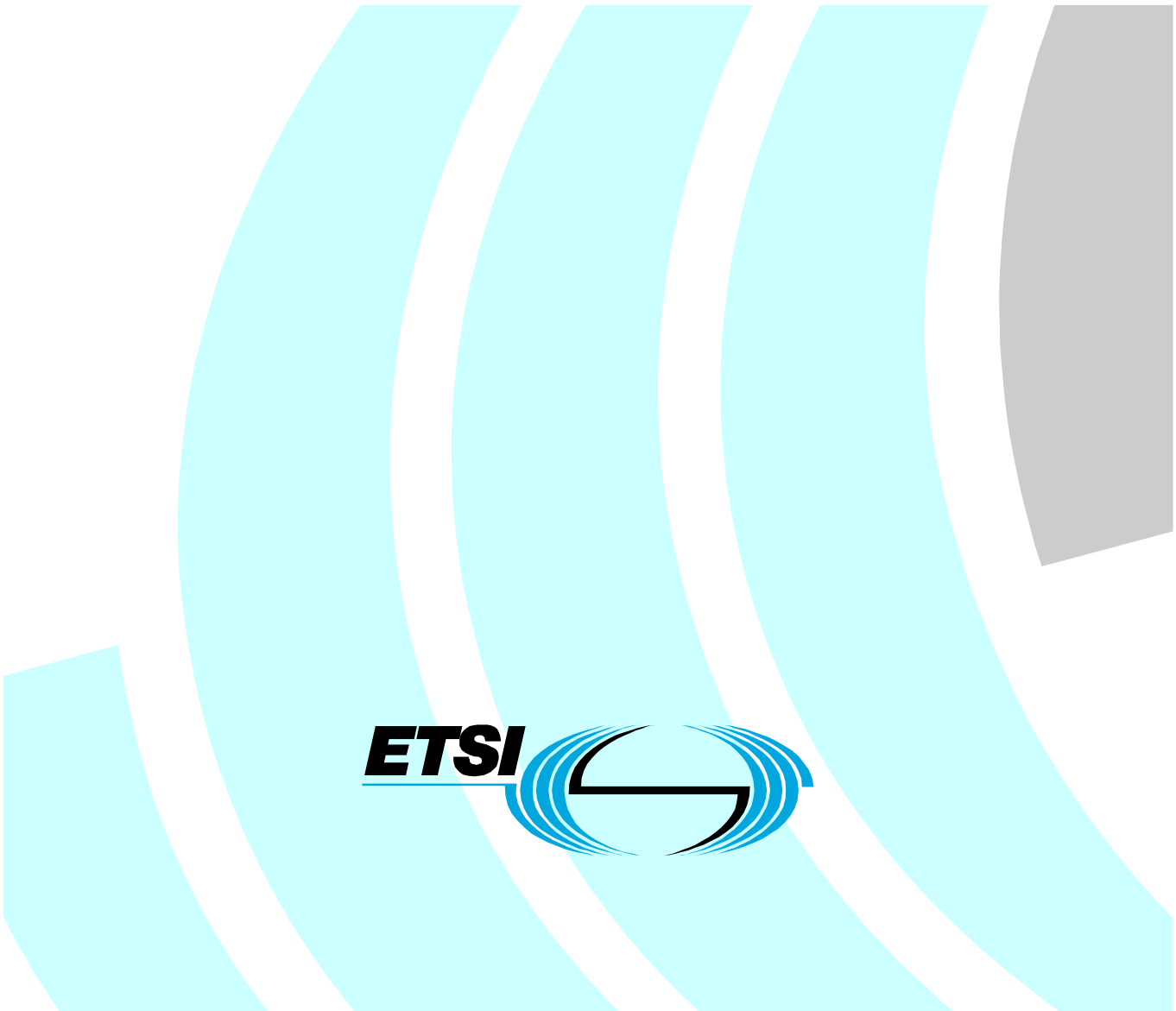
ETSI TS 101 909-26-1 V1.1.1 (2003-06)

Technical Specification

Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 26: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 1: Embedded Multimedia Terminal Adapter



Reference
DTS/AT-020020-26-01

Keywords
access, broadband, cable, IP, IPCable,
multimedia, PSTN, PICS, terminal, testing, VoIP

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Access and Terminals (AT).

The present document is part 26, sub-part 1 of a multi-part deliverable. Full details of the entire series can be found in part 1 [28].

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 Network-based Call Signalling, Dynamic Quality of Service, Provisioning and Security protocols for the IPCablecom (packet-based multimedia communication) system defined in TS 101 909-3 [1], TS 101 909-4 [2], TS 101 909-5 [3], TS 101 909-6 [4], TS 101 909-7 [5], TS 101 909-8 [6], TS 101 909-9 [7], TS 101 909-11 [8], in compliance with the relevant requirements specified in those specifications and in accordance with the relevant guidance given in ISO/IEC 9646-7 [18].

The supplier of a protocol implementation which is claimed to conform to 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] ETSI TS 101 909-3 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 3: Audio Codec Requirements for the Provision of Bi-Directional Audio Service over Cable Television Networks using Cable Modems".

[2] ETSI TS 101 909-4 (V1.2.2): "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 4: Network Call Signalling Protocol".

[3] ETSI TS 101 909-5 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 5: Dynamic Quality of Service for the Provision of Real Time Services over Cable Television Networks using Cable Modems".

[4] ETSI TS 101 909-6 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 6: Media Terminal Adapter (MTA) device provisioning".

[5] ETSI TS 101 909-7 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 7: Management Information Base (MIB) Framework".

[6] ETSI TS 101 909-8 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 8: Media Terminal Adapter (MTA) Management Information Base (MIB)".

[7] ETSI TS 101 909-9 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 9: Network Call Signalling (NCS) MIB Requirements".

[8] ETSI TS 101 909-11 (V1.1.1): "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 11: Security".

[9] ETSI ES 201 488: "Data-Over-Cable Service Interface Specifications Radio Frequency Interface Specification".

[10] ETSI ES 200 800: "Digital Video Broadcasting (DVB); DVB interaction channel for Cable TV distribution systems (CATV)".

[11] IETF RFC 2131 (1997): "Dynamic Host Configuration Protocol".

[12] IETF RFC 2406 (1998): "IP Encapsulating Security Payload (ESP)".

[13] IETF RFC 2409 (1998): "The Internet Key Exchange (IKE)".

[14] IETF RFC 2459 (1999): "Internet X.509 Public Key Infrastructure; Certificate and CRL Profile".

[15] IETF RFC 2578: "Structure of Management Information Version 2 (SMIv2)".

[16] IETF RFC 2579: "Textual Conventions for SMIv2".

[17] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[18] ISO/IEC 9646-7 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[19] ITU-T Recommendation G.165: "Echo cancellers".

[20] ITU-T Recommendation G.168: "Digital network echo cancellers".

[21] ITU-T Recommendation J.83: "Digital multi-programme systems for television, sound and data services for cable distribution".

[22] ITU-T Recommendation J.112: "Transmission systems for interactive cable television services".

[23] ITU-T Recommendation T.30 Amendment 4 (20/01): "Procedure for document facsimile transmission in the general switched telephone network".

[24] ITU-T Recommendation V.8 (20/00): "Procedures for starting sessions of data transmission over the public switched telephone network".

[25] ITU-T Recommendation V.18 (20/00): "Operational and interworking requirements for DCEs operating in the text telephone mode".

[26] ITU-T Recommendation V.21 (19/88): "300 bits per second duplex modem standardized for use in the general switched telephone network".

[27] ITU-T Recommendation V.25 Corrigendum 1 (20/01): "Automatic answering equipment and general procedures for automatic calling equipment on the general switched telephone network including procedures for disabling of echo control devices for both manually".

[28] ETSI TS 101 909-1: "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 1: General".

[29] IETF RFC 2959 (2000): "Real-Time Transport Protocol Management Information Base".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions defined in TS 101 909-3 [1], TS 101 909-4 [2], TS 101 909-5 [3], TS 101 909-6 [4], TS 101 909-7 [5], TS 101 909-8 [6], TS 101 909-9 [7], TS 101 909-11 [8], ISO/IEC 9646-1 [17] and ISO/IEC 9646-7 [18] and the following apply:

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes a PICS

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:

AALN	Analogue Access Line endpoint Naming
ANSam	modified answer tone
bz	busy tone
cf	congestion tone
dl	dial tone
DQoS	Dynamic Quality of Service
E-MTA	Embedded MTA
FQDNs	Fully Qualified Domain Names
ft	fax tone
ICS	Implementation Conformance Statement
IUT	Implementation Under Test
ld	Long duration connection
lt	line treatment
ma	media start
MFPB	Multi Frequency Push Button
MIB	Management Information Base
mt	modem tone
MTA	Multimedia Terminal Adapter
mwi	message waiting indicator
NCS	Network-based Call Signalling protocol
of	operation failure
ot	off-hook warning tone
pd	pulse encoding duration
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
pr	pulse period encoding duration
ro	reorder tone
rs	ringsplash
rt	ring back tone
SCS	System Conformance Statement
sl	stutter dial tone
SUT	System Under Test
TDD	Telecom Devices for the Deaf tones
TGS	Ticket Granting Server
TO	timeout
wt1	call waiting tone1

4 Overview

The TS 101 909 specifications are not a series of individual standards that were just glued together to make a solution; they are a cohesive set of interwoven specifications that jointly evolved to enable the IPCablecom implementations to interwork as a cohesive end-to-end system. They are entirely based on cable operator needs and requirements. Any changes made to one part have to be done in concert with work being done in other parts. These must be closely coordinated to ensure the elements interface together properly.

For all of the sections of a given specification, there is a history of evolution and reasoning behind the development of PacketCable™ and subsequently IPCablecom.The present document relates to the set of base standards as defined in the TS 101 909 series, there is no single base standard that covers the requirements of the E-MTA in its entirety. Figure 1 illustrates the set of TS 101 909 series base standards that have been referred to in order to evaluate an E-MTA protocol implementation, for the purpose of developing the present document.

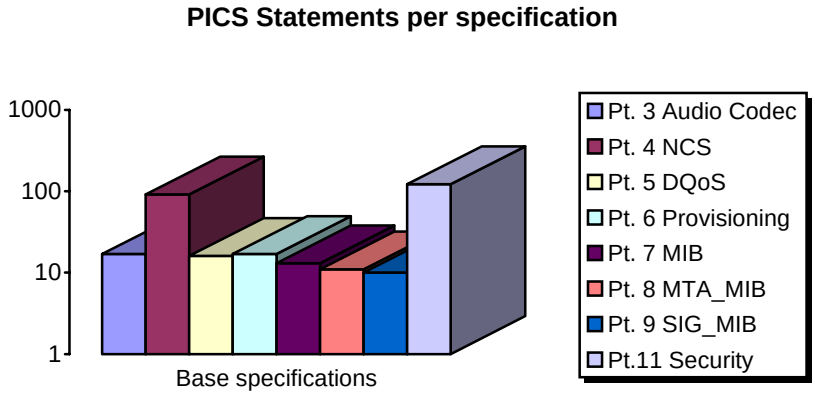

Figure 1: Base specifications relevant to the E-MTA

5 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 TS 101 909 IPCablecom series specific to embedded multimedia terminal adapter

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 the ETSI IPCablecom (TS 101 909) series 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;
- audio codec implementation;
- network-based call signalling protocol implementation;
- dynamic quality of service implementation;
- multimedia terminal adapter provisioning implementation;
- management information base implementation;
- implementation of security mechanisms.

A.1.2 Abbreviations and conventions

The PICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [18].

Item column

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

Item description column

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

Status column

The following notations, defined in ISO/IEC 9646-7 [18], are used for the status column:

M	mandatory - the capability is required to be supported;
O	indicates an optional requirement in TS 101 909. However, only sending of the parameter/message is optional. When the parameter/message is received an ETSI IPCablecom compliant E-MTA shall act upon the parameter/message in accordance with the procedures as described in the main body of the present document;
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;
Ot.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 in the table numbered t and the logic of their selection which is defined immediately following the table;
Ct.i	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 in the table numbered t, expression which is defined immediately following the table.

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [18], 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).

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 [18], 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.

Values allowed

Notes describe the content of the field, when only restricted values are supported, for sent message.

References to items

For each possible item answer (answer in the support column) within the PICS 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.

EXAMPLE: A.5/4 is the reference to the answer of item 4 in table 5 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 or supported column boxes provided, using the notation described in clause A.1.2.

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 terminal 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 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 protocols to the interfaces on the E-MTA

The PICS proforma applies to the following standards:

ETSI TS 101 909-3 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 3: Audio Codec Requirements for the Provision of Bi-Directional Audio Service over Cable Television Networks using Cable Modems".

ETSI TS 101 909-4 (V1.2.2): "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 4: Network Call Signalling Protocol"

ETSI TS 101 909-5 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 5: Dynamic Quality of Service for the Provision of Real Time Services over Cable Television Networks using Cable Modems".

ETSI TS 101 909-6 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 6: Media Terminal Adapter (MTA) device provisioning"

ETSI TS 101 909-7 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 7: Management Information Base (MIB) Framework".

ETSI TS 101 909-8 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 8: Media Terminal Adapter (MTA) Management Information Base (MIB)".

ETSI TS 101 909-9 (V1.1.1): "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 9: Network Call Signalling (NCS) MIB Requirements".

ETSI TS 101 909-11 (V1.2.1): "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 11: Security".

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 Audio Codec

Table A.1: Audio Codec

Item	Requirement	Reference	Status	Support
AC_1	Does the E-MTA support a G.711 codec?	5 [1]	M	
AC_2	Does the E-MTA support a G.728 codec?	5.1 [1]	O	
AC_3	Does the E-MTA support a G.729, annex E codec?	5.1 [1]	O	
AC_4	Does the E-MTA successfully pass DTMF tone transmissions?	4.1 [1]	M	
AC_5	Are your specified codecs capable of transparently passing DTMF tones in-band?	4.1 [1]	M	
AC_6	Does the E-MTA detect fax/modem signals?	4.2 [1]	M	
AC_7	Does the E-MTA support Line echo cancellation?	4.3 [1]	M	
AC_8	Does the E-MTA support full duplex echo cancellation?	4.3 [1]	M	
AC_9	Is the echo canceller in compliance with ITU-T Recommendation G.165 [19]?	4.3 [1]	O	
AC_10	Is the echo canceller in compliance with ITU-T Recommendation G.168 [20]?	4.3 [1]	O	
AC_11	Does the E-MTA support detection of ITU T Recommendation V.18 [25] hearing-impaired tones, including V.18 annex A?	4.5 [1]	M	
AC_12	Does the E-MTA support ITU-T Recommendation V.18 [25] annex G?	4.5 [1]	O	
AC_13	Does the E-MTA support G.711 codec in both companding modes (mu-law and A-law)?	5.1 [1]	M	
AC_14	Does the E-MTA support codecs encoded with RTPMap Parameters?	Annex A [1]	M	
AC_15	Does the E-MTA support G.711 encoding using name PCMU/8000?	Annex A [1]	O	
AC_16	Does the E-MTA support mapping of either the payload type or ASCII string representation to the bandwidth requirements for every defined Codec?	Annex A [1]	M	
AC_17	Does the EMTA support mapping of RTP/AVP code to RSVP Flowspec (as used by DQoS)?	Annex A [1]	M	
Comments:				

A.7 Network-based call signalling protocol

Table A.2: MGCI Naming and Model Conventions supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_1	With respect to the MGCI Interface, does the implementation support one or more connections belonging to the same call?	6.1 [2]	O	
NCS_2	Does the local endpoint name adhere to the naming rules set out in clause 6.1.1 of TS 101 909-4 [2]?	6.1.1 [2]	M	
NCS_3	Are the individual terms of the local endpoint names separated by a single slash ("/", ASCII 2F hex)?	6.1.1 [2]	M	
NCS_4	Is wild-carding represented by either an asterisk ("*") or a dollar sign ("$") for the terms of the naming path?	6.1.1 [2]	M	
NCS_5	If a term is wild-carded, then are all terms to the right of that term wild-carded as well?	6.1.1 [2]	M	
NCS_6	When mixed dollar sign and asterisk wild-cards are used, dollar-signs are only allowed from the right, thus if a term had a dollar sign wild-card, are all terms to the right of the dollar sign also wild-carded using the dollar sign?	6.1.1 [2]	M	
NCS_7	Does the end point naming contain additional rules apart from those that are set out in clause 6.1.1 of TS 101 909-4 [2]?	6.1.1 [2]	M	
NCS_8	Are those additional end point naming rules not in conflict with those specified in clause 6.1.1 of TS 101 909-4 [2]?	6.1.1 [2]	M	
NCS_9	Do endpoints support digit maps as defined in clause 6.1.5 of TS 101 909-4 [2]?	6.1.5 [2]	M	
NCS_10	Does the E-MTA reject package names where the first or last character in a name is a hyphen as given in clause 6.1.6 of TS 101 909-4 [2]?	6.1.6 [2]	M	
NCS_11	Does the E-MTA support the use of an "at" sign (@) as a delimiter as given in clause 6.1.6 of TS 101 909-4 [2]?	6.1.6 [2]	M	
Comments:				

Table A.3: Analogue Access Line endpoint Naming (AALN) supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_12	Do endpoints in embedded clients support the analogue telephone (aaln) naming conventions specified in clause 6.1.1.1 of TS 101 909-4 [2]?	6.1.1.1 [2]	M	
NCS_13	Does the E-MTA local endpoint name contain at least one and, at most, two Terms as given in clause 6.1.1.1.1 of TS 101 909-4 [2]?	6.1.1.1.1 [2]	M	
NCS_14	For Term1, does E-MTA endpoint support the term containing "aaln"?	6.1.1.1.1 [2]	M	
NCS_15	For Term1, does the E-MTA endpoint support the term containing a wildcard character?	6.1.1.1.1 [2]	M	
NCS_16	For Term2, does the E-MTA endpoint contain a number representing the number of analogue access lines supported by the embedded client in question?	6.1.1.1.1 [2]	M	
NCS_17	When a local endpoint name is composed of only one term, is this Term1?	6.1.1.1.1 [2]	M	
Comments:				

Table A.4: Support of Wildcard Characters by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_18	Does the E-MTA support the use of the wildcard character "*" (asterix) to denote all connections, as given in clause 6.1.6 of TS 101 909-4 [2]?	6.1.6 [2]	M	
NCS_19	Does the E-MTA support the use of the wildcard character "$" (dollar sign) to denote a current connection, as given in clause 6.1.6 of TS 101 909-4 [2]?	6.1.6 [2]	M	
Comments:				

Table A.5: Gateway Control Functions supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_20	Does the Embedded client implement the MGCI as defined (clause 15 of TS 101 909-4 [2]), including the semantics specified and the message formats and encodings used?	6.3 [2]	M	
NCS_21	Does the implementation support "network loopback" mode and reflect RTP packets?	6.3 [2]	O	
NCS_22	Does the implementation support "network continuity test" mode, with internal decoding and re-encoding as appropriate?	6.3 [2]	M	
NCS_23	Does the E-MTA not place the "network continuity test" audio signal on its analogue access line, regardless of the current hook-state of the analogue TE, i.e. in either on-hook or off-hook state?	6.3 [2]	M	
NCS_24	Is the E-MTA capable of supporting new and existing connections for the endpoint when some connections are placed in "network loopback" or "network continuity test" mode?	6.3 [2]	M	
NCS_25	Does the E-MTA support selection of one codec as per the "Encoding Method" parameter of the LocalConnectionOptions field in the CreateConnection message, as given in clause 6.3.3 of TS 101 909-4 [2]?	6.3.3 [2]	M	
NCS_26	Does the E-MTA implement the value specified in the "Packetization Period" parameter of the LocalConnectionOptions field in the CreateConnection message, as given in clause 6.3.3 of TS 101 909-4 [2]?	6.3.3 [2]	M	
NCS_27	Does the E-MTA implement the value specified in the "Silence Suppression" parameter of the LocalConnectionOptions field in the CreateConnection message, as given in clause 6.3.3 of TS 101 909-4 [2]?	6.3.3 [2]	M	
NCS_28	If no value is specified in the "Silence Suppression" parameter, does the E-MTA not use Silence Suppression?	6.3.3 [2]	M	
NCS_29	Does the E-MTA apply echo cancellation to the analogue line (for the specified embedded client) when the "Echo cancellation" parameter is omitted from the LocalConnectionOptions field in a CreateConnection message, as given in clause 6.3.3 of TS 101 909-4 [2]?	6.3.3 [2]	M	
NCS_30	Is the secret (as specified in the IPCablecom Security specification [8]) encoded using base64 encoding?	6.3.3 [2]	M	
NCS_31	Does the E-MTA respect the requirement to implement the first value in the list of RTP/RTCP ciphersuite values, as given in clause 6.3.3 of TS 101 909-4 [2]?	6.3.3 [2]	M	
NCS_32	Does the E-MTA support RequestedEvents?	6.3.4 [2]	O	
NCS_33	Does the E-MTA support RequestIdentifier?	6.3.4 [2]	O	
NCS_34	Does the E-MTA support DigitMap?	6.3.4 [2]	O	
NCS_35	Does the E-MTA support SignalRequests?	6.3.4 [2]	O	
NCS_36	Does the E-MTA support QuarantineHandling?	6.3.4 [2]	O	
NCS_37	Does the E-MTA support DetectEvents?	6.3.4 [2]	O	
NCS_38	Does the E-MTA support both a "graceful" or "forced" RestartInProgress message?	6.3.9 [2]	O	
Comments:				

Table A.6: Failover and Race Conditions supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_39	Does the E-MTA support the Restart Procedure?	6.4.3.5 [2]	M	
NCS_40	Are the steps defined in 6.4.3.6 of TS 101 909-4 [2] followed by an E-MTA where its endpoints become "disconnected"?	6.4.3.6 [2]	M	
NCS_41	Does the E-MTA respect the requirement to send a RestartInProgress command to the Call Agent at the beginning of the "disconnected" procedure?	6.4.3.6 [2]	M	
NCS_42	Does the E-MTA provide silence on affected "disconnected" endpoints?	6.4.3.6 [2]	O	
NCS_43	Does the E-MTA provide reorder tone to be played on affected "disconnected" endpoints?	6.4.3.6 [2]	O	
NCS_44	Does the E-MTA enable a downloaded wav file to be played on affected "disconnected" endpoints?	6.4.3.6 [2]	O	
Comments:				

Table A.7: Error Codes supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_45	Does the E-MTA support error code 517 - unsupported mode?	6.3.3 [2]	M	
NCS_46	Does the E-MTA support error code 518 - unsupported package?	6.1.6 [2]	M	
NCS_47	Does the E-MTA support error code 524 - LocalConnectionOptions inconsistency?	6.3.3 [2]	M	
NCS_48	Does the E-MTA support error code 527 - missing RemoteConnectionDescriptor?	6.3.3 [2]	M	
NCS_49	Does E-MTA adhere to the return codes as appropriate and specified in table 3, clause 6.5 of TS 101 909-4 [2]	6.5 [2]	M	
NCS_50	Does the E-MTA support "error code 401" for the ringing (rg) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	O	
NCS_51	Does the E-MTA support "error code 401" for the ringsplash (rs) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	O	
NCS_52	Does the E-MTA support "error code 401" for the distinctive ringing (r0, r1, r2, r3, r4, r5, r6 or r7) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	O	
NCS_53	Does the E-MTA respect the requirement to return "error code 402" for the dial tone (dl) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_54	Does the E-MTA respect the requirement to return "error code 402" for the stutter dial tone (sl) event as given in annex A [2]?	Annex A [2]	M	
NCS_55	Does the E-MTA respect the requirement to return "error code 402" for the DTMF tones (MFPB) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_56	Does the E-MTA respect the requirement to return "error code 402" for the busy tone (bz) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	

Item	Requirement	Reference	Status	Support
NCS_57	Does the E-MTA respect the requirement to return "error code 402" for the congestion tone (cf) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_58	Does the E-MTA respect the requirement to return "error code 402" for the message waiting indicator (mwi) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_59	Does the E-MTA respect the requirement to return "error code 402" for the off-hook warning tone (ot) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_60	Does the E-MTA respect the requirement to return "error code 402" for the ring back tone (rt) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_61	Does the E-MTA respect the requirement to return "error code 402" for the reorder tone (ro) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
NCS_62	Does the E-MTA respect the requirement to return "error code 402" for the call waiting tone1 (wt1, .., wt4) event as given in annex A of TS 101 909-4 [2]?	Annex A [2]	M	
Comments:				

Table A.8: Event package (L) supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_63	When receiving Caller ID information, does the E-MTA support the following ASCII formatted data (ci(time, number, name))?	Annex A [2]	M	
NCS_64	Does the E-MTA generate a fax tone (ft) event when an ITU-T Recommendation V.21 [26] fax preamble is detected?	Annex A [2]	M	
NCS_65	Does the E-MTA generate a fax tone (ft) event when an ITU-T Recommendation T.30 [23] CNG tone is detected?	Annex A [2]	O	
NCS_66	Does the E-MTA generate a media start (ma) event when the first valid RTP media packet is received on a connection?	Annex A [2]	M	
NCS_67	Does the E-MTA generate a modem tone (mt) event whenever a data call is detected by presence of ITU-T Recommendation V.25 [27] answer tone (ANS) with or without phase reversal?	Annex A [2]	M	
NCS_68	Does the E-MTA generate a modem tone (mt) event whenever a data call is detected by presence of ITU-T Recommendation V.8 [24] modified answer tone (ANSam) with or without phase reversal?	Annex A [2]	M	
NCS_69	Does the E-MTA respect the requirement to generate an operation failure (of) event as described in annex A of TS 101 909-4 [2]?	Annex A [2]	O	
NCS_70	Does the E-MTA support the generation of a TDD (Telecom Devices for the Deaf tones) event?	Annex A [2]	M	
NCS_71	Does the E-MTA support the detection of a TDD call as per ITU-T recommendation V.18 [25]?	Annex A [2]	M	
Comments:				

Table A.9: Event package (E) supported by the E-MTA

Item	Requirement	Value	Reference	Status	Support
NCS_72	Does the E-MTA allow the following cadence ringing values to be provisioned?	≥ 0 ≤ 127	Annex B.4.1.1 [2]	M	
NCS_73	Does the E-MTA support the default ring cadence values as specified in table B.1, TS 101 909-4 [2]?	-	Annex B.4.1.1 [2]	M	
NCS_74	If the pulse encoding duration (pd) is not provided by the requesting entity, does the E-MTA apply a provisioned or internally defaulted value, based on the line treatment (lt) parameter (table B.3, TS 101 909-4 [2])?	-	Annex B.4.2.4.1 [2]	O	
NCS_75	If the pulse period encoding duration (pr) is not provided by the requesting entity, does the E-MTA apply a provisioned or internally defaulted value, based on the line treatment (lt) parameter (table B.3, TS 101 909-4 [2])?	-	Annex B.4.2.4.1 [2]	O	
NCS_76	Does the E-MTA support meter pulse generation and application as defined in clause B.4.9 of TS 101 909-4 [2]?	-	Annex B.4.9 [2]	O	
NCS_77	Does the E-MTA implement all the default line treatment values as specified in tables B.1, B.2 and B.3 of TS 101 909-4 [2]?	-	Annex B.5.1 [2]	M	
NCS_78	Does the E-MTA support the NCS Audit package as outlined in annex B.6.1 of TS 101 909-4 [2]?	-	Annex B.6.1 [2]	M	
Comments:					

Table A.10: Event package (E) signals supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_79	Does the E-MTA support Cadence-Ringing signal (cr) as specified in annex B.4.1?	Annex B.4.1 [2]	M	
NCS_80	Does the E-MTA support Pulsed Signal (ps) as specified in annex B.4.2?	Annex B.4.2 [2]	M	
NCS_81	Does the E-MTA support Pulsed signal cancellation (*pc*) as specified in annex B.4.5?	Annex B.4.5 [2]	M	
NCS_82	Does the E-MTA support Pulsed completion event (pc) as specified in annex B.4.6?	Annex B.4.6 [2]	M	
NCS_83	Does the E-MTA support Pulsed signal failure event (of) as specified in annex B.4.7?	Annex B.4.7 [2]	M	
NCS_84	Does the E-MTA support Steady-signal (ss) as specified in annex B.4.8?	Annex B.4.8 [2]	M	
NCS_85	Does the E-MTA support Metering pulse generation (em) as specified in annex B.4.9?	Annex B.4.9 [2]	M	
Comments:				

Table A.11: NCS - DQoS interactions supported by the E-MTA

Item	Requirement	Reference	Status	Support
NCS_86	Does the E-MTA use the classifiers as shown in table C.1 of TS 101 909-4 [2] for the resource reservation and commit?	Annex C [2]	M	
NCS_87	Does the E-MTA use the classifiers as shown in table C.2 of TS 101 909-4 [2] for resource reservation and commit when the RemoteConnectionDescriptor is not provided?	Annex C [2]	M	
Comments:				

Table A.12: Timer values supported by the E-MTA

Item	Requirement	Value	Reference	Status	Support
NCS_88	Is the default value for Td_{init} equal to this value?	15 s	6.4.3.6 [2]	M	
NCS_89	Is the default value for Td_{min} equal to this value?	15 s	6.4.3.6 [2]	M	
NCS_90	Is the default value for Td_{max} equal to this value?	600 s	6.4.3.6 [2]	M	
NCS_91	In the case where Timer (t), as described in clause 6.15 [2], functions as an inter-digit timer for the "accumulate according to digit map" action; is the default value for partial dial timing (T_{par}) equal to this value?	16 s	Annex A [2]	M	
NCS_92	In the case where Timer (t), as described in clause 6.15 [2], functions as an inter-digit timer for the "accumulate according to digit map" action; is the default value for critical dial timing (T_{crit}) equal to this value?	4 s	Annex A [2]	M	
NCS_93	Is Timer (t) provisionable?	-	Annex A [2]	M	
NCS_94	Is the default value of the Long duration connection (ld) period equal to this value?	60 min	Annex A [2]	M	
NCS_95	Is timer ld provisionable?	-	Annex A [2]	M	
NCS_96	Is the timeout (TO) signal provisionable?	-	Annex B.4.2 [2]	M	
NCS_97	What is the default TO value set at?		Annex B.4.2 [2]	Value=	
Comments:					

A.8 Dynamic Quality of Service (DQoS)

Table A.13: Billing support by the E-MTA

Item	Requirement	Reference	Status	Support
DQoS_1	Do all reservation requests that pass admission control fit within the authorization envelope?	5.7.8 [3]	M	
Comments:				

Table A.14: RSVP extensions: header compression support by the E-MTA

Item	Requirement	Reference	Status	Support
DQoS_2	Does the E-MTA support IP header compression or suppression?	6.1.3 [3]	M	
DQoS_3	Does the E-MTA support IP checksum compression or suppression?	6.1.3 [3]	M	
DQoS_4	Does the E-MTA support UDP checksum compression or suppression?	6.1.3 [3]	M	
DQoS_5	Does the E-MTA respect the Tspec requirement to reflect a value corresponding to the data flow for which reservation is being requested?	6.1.3 [3]	M	
Comments:				

Table A.15: RSVP extensions: dynamic behaviour

Item	Requirement	Reference	Status	Support
DQoS_6	Does the admission control fail, where there is a reservation that is no greater than the one currently installed?	6.1.4 [3]	M	
DQoS_7	When using the resource-ID resource-id object, if the amount of resource requested in the new reservation is no greater than previously installed, does the admission control fail?	6.1.4 [3]	M	
Comments:				

Table A.16: RSVP extensions: authentication

Item	Requirement	Reference	Status	Support
DQoS_8	Does the E-MTA include the RSVP-PATH messages in the Gate-ID policy data?	6.1.6 [3]	M	
Comments:				

Table A.17: RSVP flowspecs

Item	Requirement	Reference	Status	Support
DQoS_9	The CODEC specification TS 101 909-3 [1] contains the mapping requirements of higher-layer service descriptions (e.g. SDP as used in VoIP applications) into Flowspecs. Does the E-MTA map Flowspecs as defined in ES 201 488 [9] layer 2 parameters?	6.2 [3]	M	
DQoS_10	Where the rate ***R*** provided in the ***Rspec*** is the amount of bandwidth allocated to the flow. Is it greater than or equal to ***r*** from the ***Tspec*** for the this delay bound to hold?	6.2 [3]	M	
DQoS_11	When a codec is changed in mid-session, can the E-MTA generate multiple Tspecs?	6.2 [3]	M	
Comments:				

Table A.18: RSVP additional objects

Item	Requirement	Reference	Status	Support
DQoS_12	Does the MTA support additional RSVP objects as in clause 6.3 of TS 101 909-5 [3]?	6.3 [3]	M	
Comments:				

Table A.19: RSVP definitions

Item	Requirement	Reference	Status	Support
DQoS_13	Does the MTA support the enhanced RSVP messages?	6.4 [3]	M	
Comments:				

Table A.20: Reservation by the E-MTA

Item	Requirement	Reference	Status	Support
DQoS_14	Can the MTA perform the Reservation Operation as outlined in clause 6.6 of TS 101 909-5 [3]?	6.5 [3]	M	
Comments:				

Table A.21: Support of commit message by the E-MTA

Item	Requirement	Reference	Status	Support
DQoS_15	Does the MTA conform to the Commit messages as defined in clause 6.6 of TS 101 909-5 [3]?	6.6 [3]	M	
DQoS_16	After having sent the Commit message what timer is set?	6.7 [3]	Value=	
DQoS_17	After having sent the Commit message what is the value of the timer?	6.7 [3]	Value=	
DQoS_18	After having sent the Commit message how many reattempts are made if no acknowledgements are received?	6.7 [3]	Value=	
Comments:				

A.9 MTA device provisioning

Table A.22: E-MTA addressing

Item	Requirement	Reference	Status	Support
Prov_1	For the provisioning of an E-MTA device, are Both CM and MTA device provisioning steps performed?	4.2 [4]	M	
Prov_2	Does the E-MTA have two IP addresses. (i.e. an IP address for the CM component, and a different IP address for the MTA component)?	4.2 [4]	M	
Prov_3	Does the E-MTA have two MAC addresses, one MAC address for the CM component, and a different MAC address for the MTA-component?	4.2 [4]	M	
Comments:				

Table A.23: Support of Fully Qualified Domain Name (FQDN) by the E-MTA

Item	Requirement	Reference	Status	Support
Prov_4	Is the FQDN included in the DHCP offer?	4.2 [4]	O	
Prov_5	Is the FQDN included in the E-MTA configuration file when it is not included in the DHCP offer?	4.2 [4]	CM	
Prov_6	In the condition as identified in Prov_4.2, is the mapping of the FQDN to IP address configured in the network DNS server?	4.2 [4]	CM	
Prov_7	In the condition as identified in Prov_4.2, is the mapping of the FQDN to IP address available to the rest of the network?	4.2 [4]	CM	
Comments:				

Table A.24: E-MTA configuration files

Item	Requirement	Reference	Status	Support
Prov_8	Does E-MTA support a separate CM configuration file for the CM component as given in clause 4.2 of TS 101 909-6 [4]?	4.2 [4]	M	
Prov_9	Does E-MTA support a separate MTA configuration file for the MTA component as given in clause 4.2 of TS 101 909-6 [4]?	4.2 [4]	M	
Prov_10	Does the E-MTA support receipt of the configuration containing the parameters as given in clause 8.2 of TS 101 909-6 [4]?	8.2 [4]	M	
Prov_11	Does the E-MTA discarded the MTA configuration file if it can not be authenticated as given in clause 8.2 of TS 101 909-6 [4]?	8.2 [4]	M	
Prov_12	Does the E-MTA support the "Telephony Config File Start" attribute within the Device Level Configuration as given in table 9, clause 8.2.1 of TS 101 909-6 [4]?	8.2.1 [4]	M	
Prov_13	Does the E-MTA support the "Telephony Config File End" attribute within the Device Level Configuration as given in table 9 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.1 [4]	M	
Prov_14	Does the E-MTA support the "Telephony MTA Admin State" attribute within the Device Level Configuration as given in table 9 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.1 [4]	M	
Prov_15	Does the E-MTA support the "IPCablecom MTA Device FQDN" attribute within the Device Level Configuration as given in table 9 of clause 8.2.1 [4]?	8.2.1 [4]	M	
Prov_16	Does the E-MTA support the "Telephony Service Provider SNMP Entity" attribute within the Device Level Configuration as given in table 9 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.1 [4]	M	
Prov_17	Does the E-MTA support the "Telephony Service Provider DHCP Server" attribute within the Device Level Configuration as given in table 9 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.1 [4]	M	
Prov_18	Does the E-MTA support the "MTA Privacy Key" attribute within the Device Level Configuration as given in table 9 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.1 [4]	M	
Prov_19	Does the E-MTA support the "R0 cadence" attribute within the Device Level Service Data as given in table 10 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.2 [4]	M	
Prov_20	Does the E-MTA support the "R6 cadence" attribute within the Device Level Service Data as given in table 10 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.2 [4]	M	
Prov_21	Does the E-MTA support the "R7 cadence" attribute within the Device Level Service Data as given in table 10 of clause 8.2.1 of TS 101 909-6 [4]?	8.2.2 [4]	M	
Comments:				

Table A.25: Support of OSS server protocols by E-MTA

Item	Requirement	Reference	Status	Support
Prov_22	Does the E-MTA support use of SNMPv3 security for network management operations?	4.2 [4]	M	
Prov_23	Does the E-MTA support Trivial File Transfer Protocol (TFTP)?	4.2 [4]	M	
Prov_24	Does the E-MTA support BootP for communications with the Domain Name Server (DNS)?	4.2 [4]	M	
Prov_25	Does the E-MTA support DHCP?	4.2 [4]	M	
Prov_26	Does the E-MTA support HTTP?	4.2 [4]	M	
Prov_27	Does the E-MTA support communication with the SYSLOG Server, as given in clause 4.2 of TS 101 909-6 [4]?	4.2 [4]	M	
Prov_28	Does the E-MTA support RADIUS for communications with the Record Keeping Server (RKS)?	4.2 [4]	M	
Prov_29	Does the E-MTA support Kerberos protocol with PKINIT extensions for communications with the Ticket Granting Server (TGS)?	4.2 [4]	M	
Comments:				

Table A.26: Support of DHCP by E-MTA

Item	Requirement	Reference	Status	Support
Prov_30	Does the E-MTA support DHCP option code 60 (Vendor Client Identifier)as defined in clause 7.2 of TS 101 909-6 [4]?	4.4.4 [4]	M	
Prov_31	Does the E-MTA support DHCP option code 177 (IPCablecom Servers Option) as defined in clause 7.1 of TS 101 909-6 [4]?	4.4.4 [4]	M	
Prov_32	Does the MTA DHCP client support broadcast messages?	4.4.4 [4]	M	
Prov_33	Does the MTA DHCP client support unicast messages?	4.4.4 [4]	M	
Prov_34	Does the E-MTA support the MTA's assigned FQDN in the DHCP offer message?	4.4.4 [4]	O	
Prov_35	Does the MTA follow the DHCP (RFC 2131 [11]) specification timeout and retry mechanisms as given clause 6.1 of TS 101 909-6 [4]?	6.1 [4]	M	
Prov_36	Does the E-MTA encode the DHCP option code 60 in the CM-component of the DHCP discover message?	7.2 [4]	M	
Prov_37	Does the E-MTA encode the DHCP option code 60 in the MTA-component of the DHCP discover message?	7.2 [4]	M	
Comments:				

Table A.27: Support of TFTP by E-MTA

Item	Requirement	Reference	Status	Support
Prov_38	Does the MTA support the TFTP access method for downloading the MTA configuration data file via an SNMPv3 SET from the provisioning server?	4.4.8 [4]	M	
Prov_39	Does the MTA use an adaptive timeout for TFTP?	6.1 [4]	M	
Comments:				

Table A.28: Support of HTTP by E-MTA

Item	Requirement	Reference	Status	Support
Prov_40	Does the MTA support HTTP access method for downloading the MTA configuration data file via an SNMPv3 SET from the provisioning server?	4.4.8. [4]	O	
Prov_41	Does the MTA follow the HTTP specification timeout and retry mechanisms as given clause 6.1 of TS 101 909-6 [4]?	6.1 [4]	M	
Comments:				

Table A.29: Support of SNMP by E-MTA

Item	Requirement	Reference	Status	Support
Prov_42	Does the E-MTA support the provisioning sequence of the SNMPv3 requirements as given in clause 4.4.1.2 of TS 101 909-6 [4]?	4.4.1.2 [4]	M	
Prov_43	Does the E-MTA support SNMPv3 via the MTA MIB TS 101 909-8 [6] to modify services on an endpoint?	6.3.1 [4]	M	
Comments:				

Table A.30: Support of initialization sequences by E-MTA

Item	Requirement	Reference	Status	Support
Prov_44	Does the E-MTA support the Power-On Initialization Flows as given in table 1, clause 6.2 of TS 101 909-6 [4]?	6.2 [4]	M	
Prov_45	Does the E-MTA support the initialization sequence described in clause 6 of TS 101 909-6 [4]?	6.5 [4]	M	
Comments:				

Table A.31: Support of provisioning related security features by E-MTA

Item	Requirement	Reference	Status	Support
Prov_46	Does the MTA generate a random number that will be exchanged as part of the device capability data to the Provisioning Application?	4.4.1.1 [4]	M	
Prov_47	Is the nonce regenerated every time the MTA power-on initialization occurs?	4.4.1.1 [4]	M	
Prov_48	Does the MTA generate a correlation number that will be exchanged as part of the device capability data to the Provisioning Application?	4.4.1.1 [4]	M	
Prov_49	Does the MTA obtain an MTA Telephony Certificate (X.509 certificate) for each network operator's Call Management Server(s) (CMS) assigned to an MTA's voice communications endpoint?	4.4.1.1 [4]	M	
Prov_50	Does the MTA obtain a Service Provider Certificate (X.509 certificate) from the network operator that "owns" the CMS assigned to an MTA's voice communications endpoint?	4.4.1.1 [4]	M	
Prov_51	Does the MTA fail the provisioning operation under the conditions described in clause 4.4.1.1 of TS 101 909-6 [4] when both the MTA Telephony and Service Provider Certificates have not been provisioned?	4.4.1.1 [4]	M	
Prov_52	Does the MTA fail the provisioning operation under the conditions described in clause 4.4.1.1 of TS 101 909-6 [4] when a corresponding Local System Certificate is not provisioned for that endpoint?	4.4.1.1 [4]	M	
Prov_53	Does the MTA obtain a single Kerberos ticket per TS 101 909-11 [8] under the conditions described in clause 4.4.1.1 of TS 101 909-6 [4]?	4.4.1.1 [4]	M	
Prov_54	Does the E-MTA support non-duplication of Kerberos ticket requests as described in clause 4.4.1.1 of TS 101 909-6 [4]?	4.4.1.1 [4]	M	
Prov_55	Does the E-MTA initially establish a pair of IPSEC Security Associations (inbound and outbound) with one of the IP addresses returned by the DNS server as described in clause 4.4.1.1 of TS 101 909-6 [4]?	4.4.1.1 [4]	M	
Prov_56	Does the E-MTA also initially establish IPSEC Security Associations with the additional CMS IP addresses?	4.4.1.1 [4]	O	
Prov_57	Does the E-MTA not attempt to establish additional Security Associations with the same CMS IP address as described in clause 4.4.1.1 of TS 101 909-6 [4]?	4.4.1.1 [4]	M	
Prov_58	Does the MTA verify the authenticity of the configuration file it downloads from the server?	5.1 [4]	M	
Prov_59	Does the MTA implement the backoff specifications, defined in the security specification (TS 101 909-11 [8]) for the security message flows?	6.1.[4]	M	
Prov_60	Does the MTA implement the retry specifications, defined in the security specification (TS 101 909-11 [8]) for the security message flows?	6.1.[4]	M	
Comments:				

A.10 Management Information Base (MIB)

A.10.1 Management Information Base framework

Table A.32: MIB framework

Item	Requirement	Reference	Status	Support
MIB_1	Does the E-MTA comply with ITU-T Recommendation J.83 [21]?	5.2 [5]	M	
MIB_2	Does the E-MTA comply with ITU-T Recommendation J.112 [22]?	5.2 [5]	M	
MIB_3	Do the MIBs implemented by the E-MTA comply with SMIv2 as defined in IETF RFC 2578 [15]?	5.2 [5] 5.2.3 [5]	M	
MIB_4	Do the MIBs implemented by the E-MTA comply with SNMPv2 as defined in IETF RFC 2579 [16]?	5.2 [5] 5.2.3 [5]	M	
MIB_5	Are the IPCablecom MIBs implemented to be independent of the Cable Modem?	5.2.2 [5]	M	
MIB_6	Does the E-MTA provide MIB definitions for attributes that are required in the MTA device provisioning flows?	5.3.1 [5]	O	
MIB_7	Does the MIB implemented by the E-MTA provide attributes for the support of Quality of Service (QoS)?	5.3.3 [5]	O	
MIB_8	Are the MIB implemented by the E-MTA interoperable with the QoS definitions of ITU-T Recommendation J.112 [22]?	5.3.3 [5]	O	
MIB_9	Does the MIB implemented by the E-MTA provide the attributes that are needed to satisfy the high availability requirements of the voice communications service?	5.3.4 [5]	O	
MIB_10	Does the MIB implemented by the E-MTA provide the attributes that can be used to manage voice ports on the MTA?	5.3.5 [5]	O	
MIB_11	Does the MIB implemented by the E-MTA provide the attributes that are needed for management of the NCS packet voice call signalling protocol?	5.3.6 [5]	O	
MIB_12	Does the MIB implemented by the E-MTA provide the attributes that can be used to monitor and manage packet voice transport?	5.3.7 [5]	O	
MIB_13	Is the Real Time Protocol (RTP) MIB (RFC 2959 [29]) implemented?	5.3.7 [5]	O	
MIB_14	Does the MIB implemented by the E-MTA provide the attributes that can be used in monitoring of the performance of the network when used for voice communications?	5.3.8 [5]	O	
MIB_15	Does the MIB implemented by the E-MTA provide Packet counts?	5.3.8 [5]	O	
MIB_16	Does the MIB implemented by the E-MTA provide Call signalling status?	5.3.8 [5]	O	
NOTE: The ETSI source document will eventually be replaced by an IETF RFC, further checking will be required once this task has been completed.				
Comments:				

A.10.2 MTA Management Information Base (MIB)

Table A.33: MTA MIB

Item	Requirement	Reference	Status	Support
MTA_MIB_1	Does the E-MTA respect the requirement to obtain a new Kerberos ticket (with a PKINIT exchange) ≥ 15 min before the old ticket expires?	4 [6]	M	
MTA_MIB_2	When E-MTA Telephony certificate is signed by a Local System CA, what is value of the ASN.1 DER encoding parameter?	4 [6]	Value=	
MTA_MIB_3	When E-MTA Telephony certificate is signed by a Local System CA, is it a non-empty value?	4 [6]	M	
MTA_MIB_4	When E-MTA Telephony certificate is signed by a Local System CA, does it have a length of 0?	4 [6]	M	
MTA_MIB_5	Does the E-MTA generate events between warning and emergency at appropriate levels of problems?	4 [6]	O	
MTA_MIB_6	During the occurrence of the **pktcMtaDevEvReporting** event class, does the E-MTA allow traps to be disabled?	4 [6]	M	
MTA_MIB_7	During the occurrence of the **pktcMtaDevEvReporting** event class, does the E-MTA allow syslogging to be disabled?	4 [6]	M	
MTA_MIB_8	During the occurrence of the **pktcMtaDevEvReporting** event class, does the E-MTA implement internal logging when the local(0) bit is set?	4 [6]	M	
MTA_MIB_9	During the occurrence of the **pktcMtaDevEvReporting** event class, does the E-MTA generate a trap when the traps(1) bit is set?	4 [6]	M	
MTA_MIB_10	During the occurrence of the **pktcMtaDevEvReporting** event class, assuming the syslog address is set, does the E-MTA send a syslog message when the syslog(2) bit is set?	4 [6]	M	
MTA_MIB_11	When reporting multiple events via the same entry, does the E-MTA provide the time that the last event for this entry occurred?	4 [6]	O	
MTA_MIB_12	Does the E-MTA report the same value as pktcMtaDevEvFirstTime?	4 [6]	O	
NOTE: The ETSI source document will eventually be replaced by an IETF RFC, further checking will be required once this task has been completed.				
Comments:				

A.10.3 Management Information Base signalling

Table A.34: Signalling MIB

Item	Requirement	Reference	Status	Support
SIG_MIB_1	Does the E-MTA implement the syntax for the signalling MIB as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_2	Does the E-MTA support the syntax for the PktcCodecType *other(1)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_3	Does the E-MTA support the syntax for the PktcCodecType *unknown(2)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_4	Does the E-MTA support the syntax for the PktcCodecType *g729(3)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_5	Does the E-MTA support the syntax for the PktcCodecType *g729a(4)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_6	Does the E-MTA support the syntax for the PktcCodecType *g729e(5)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_7	Does the E-MTA support the syntax for the PktcCodecType *g711mu(6)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_8	Does the E-MTA support the syntax for the PktcCodecType *g726(7)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_9	Does the E-MTA support the syntax for the PktcCodecType *g728(8)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	O	
SIG_MIB_10	Does the E-MTA support the syntax for the PktcCodecType *g711a(9)*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_11	Does the E-MTA support the syntax for PktcRingCadence, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_12	Does the E-MTA support the syntax for *PktcSigType*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_13	Does the E-MTA implement the object identifier for *pktcSigMibObjects*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_14	Does the E-MTA implement the object identifier for *pktcSigDevConfigObjects*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_15	Does the E-MTA implement the object identifier for *pktcNcsEndPntConfigObjects*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_16	Does the E-MTA implement the object identifier for *pktcSigEndPntConfigObjects*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_17	Does the E-MTA implement the object identifier for *pktcDcsEndPntConfigObjects*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_18	Does the E-MTA implement the object type *pktcSigDevCodecTable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_19	Does the E-MTA implement the object type *pktcSigDevCodecEntry*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_20	Does the E-MTA implement the object type *pktcSigEndPntConfigTable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	

Item	Requirement	Reference	Status	Support
SIG_MIB_21	Does the E-MTA implement the object type *pktcSigDevCodecIndex*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_22	Does the E-MTA implement the object type *pktcSigDevEchoCancellation*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_23	Does the E-MTA implement the object type *pktcSigDevSilenceSuppression*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_24	Does the E-MTA implement the object type *pktcSigDevConnectionMode*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_25	Does the E-MTA implement the object type *pktcSigDevR0Cadence*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_26	Does the E-MTA implement the object type *pktcSigDevR6Cadence*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_27	Does the E-MTA implement the object type *pktcSigDevR7Cadence*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_28	Does the E-MTA implement the object type *pktcSigDefCallSigTos*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_29	Does the E-MTA implement the object type *pktcSigDefMediaStreamTos*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_30	Does the E-MTA implement the object type *pktcSigTosFormatSelector*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_31	Does the E-MTA implement the object type *pktcSigCapabilityTable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_32	Does the E-MTA implement the object type *pktcSigCapabilityEntry*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_33	Does the E-MTA implement the object type *pktcSignalingIndex*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_34	Does the E-MTA implement the object type *pktcSignalingType*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_35	Does the E-MTA implement the object type *pktcSignalingVersion*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_36	Does the E-MTA implement the object type *pktcSignalingVendorExtension*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_37	Does the E-MTA implement the object type *pktcSigEndPntConfigTable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_38	Does the E-MTA implement the object type *pktcSigEndPntConfigEntry*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_39	Does the E-MTA implement the object type *pktcSigEndPntCapabilityIndex*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_40	Does the E-MTA implement the object type *pktcNcsEndPntConfigTable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_41	Does the E-MTA implement the object type *pktcNcsEndPntConfigEntry*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	

Item	Requirement	Reference	Status	Support
SIG_MIB_42	Does the E-MTA implement the object type *pktcNcsEndPntConfigCallAgentId*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_43	Does the E-MTA implement the object type *pktcNcsEndPntConfigCallAgentUdpPort*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_44	Does the E-MTA implement the object type *pktcNcsEndPntConfigPartialDialTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_45	Does the E-MTA implement the object type *pktcNcsEndPntConfigCriticalDialTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_46	Does the E-MTA implement the object type *pktcNcsEndPntConfigBusyToneTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_47	Does the E-MTA implement the object type *pktcNcsEndPntConfigDialToneTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_48	Does the E-MTA implement the object type *pktcNcsEndPntConfigMessageWaitingTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_49	Does the E-MTA implement the object type *pktcNcsEndPntConfigOffHookWarnToneTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_50	Does the E-MTA implement the object type *pktcNcsEndPntConfigRingingTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_51	Does the E-MTA implement the object type *pktcNcsEndPntConfigRingBackTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_52	Does the E-MTA implement the object type *pktcNcsEndPntConfigReorderToneTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_53	Does the E-MTA implement the object type *pktcNcsEndPntConfigStutterDialToneTO*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_54	Does the E-MTA implement the object type *pktcNcsEndPntConfigTSMax*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_55	Does the E-MTA implement the object type *pktcNcsEndPntConfigMax1*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_56	Does the E-MTA implement the object type *pktcNcsEndPntConfigMax2*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_57	Does the E-MTA implement the object type *pktcNcsEndPntConfigMax1QEnable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_58	Does the E-MTA implement the object type *pktcNcsEndPntConfigMax2QEnable*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_59	Does the E-MTA implement the object type *pktcNcsEndPntConfigMWD*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_60	Does the E-MTA implement the object type *pktcNcsEndPntConfigTdinit*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_61	Does the E-MTA implement the object type *pktcNcsEndPntConfigTdmin*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_62	Does the E-MTA implement the object type *pktcNcsEndPntConfigTdmax*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	

Item	Requirement	Reference	Status	Support
SIG_MIB_63	Does the E-MTA implement the object type *pktcNcsEndPntConfigRtoMax*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_64	Does the E-MTA implement the object type *pktcNcsEndPntConfigRtoInit*, as specified in clause 4 [7]?	4 [7]	M	
SIG_MIB_65	Does the E-MTA implement the object type *pktcNcsEndPntConfigLongDurationKeepAlive* as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_66	Does the E-MTA implement the object type *pktcNcsEndPntConfigThist*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_67	Does the E-MTA implement the object type *pktcNcsEndPntConfigStatus*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_68	Does the E-MTA implement the object identifier for *pktcSigNotification*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_69	Does the E-MTA implement the object identifier for *pktcSigConformance*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_70	Does the E-MTA implement the object identifier for *pktcSigCompliances*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
SIG_MIB_71	Does the E-MTA implement the object identifier for *pktcSigGroups*, as specified in clause 4 of TS 101 909-9 [7]?	4 [7]	M	
NOTE: The ETSI source document will eventually be replaced by an IETF RFC, further checking will be required once this task has been completed.				
Comments:				

A.11 Security mechanisms

Table A.35: Protection against theft of service

NOTE: This table has been deleted as a solution needs to be included in the base specification that states specific requirements.

Table A.36: Support of security interfaces by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_1	Does the E-MTA support pkt-s0?	5.3.1, table 1 [8]	M	
SEC_2	Does the E-MTA support pkt-s1?	5.3.1, table 1 [8]	M	
SEC_3	Does the E-MTA support pkt-s2?	5.3.1, table 1 [8]	M	
SEC_4	Does the E-MTA support pkt-s3?	5.3.1, table 1 [8]	M	
SEC_5	Does the E-MTA support pkt-s4?	5.3.1, table 1 [8]	M	
SEC_6	Does the E-MTA support pkt-s5?	5.3.1, table 1 [8]	M	
SEC_7	Does the E-MTA support pkt-s12?	5.3.1, table 1 [8]	M	
SEC_8	Does the E-MTA support pkt-s13?	5.3.1, table 1 [8]	M	
Comments:				

Table A.37: Security mechanisms supported by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_9	Does the E-MTA support Kerberos?	6.4.2 [8]	M	
SEC_10	Does the E-MTA support SMNP v3?	6.3 [8]	M	
SEC_11	Does the E-MTA support PKINIT?	6.4.3 [8]	M	
SEC_12	Does the E-MTA support IPSec?	6.1 [8]	M	
Comments:				

Table A.38: Root private key compromise protection

Item	Requirement	Reference	Status	Support
SEC_13	What is the length of the root private key?	5.3.2.3 [8]	Value=	
Comments:				

Table A.39: Authentication and encryption mechanisms

Item	Requirement	Reference	Status	Support
SEC_14	Does the E-MTA support IPSec as given in IETF RFC 2406 [12]?	6.1.2.1 [8]	M	
SEC_15	Does the E-MTA support IPSec Transform ID ESP_3DES?	6.1.2.1 [8]	M	
SEC_16	Does the E-MTA support IPSec Transform ID ESP_NULL?	6.1.2.1 [8]	M	
SEC_17	Does the E-MTA support IPSec Transform ID ESP_AES?	6.1.2.1 [8]	O	
SEC_18	On each of the MTA interfaces that requires confidentiality, is the ESP_NULL transform ID used?	6.1.2.1 [8]	M	
SEC_19	Does the E-MTA support HMAC-MD5 authentication algorithm?	6.1.2.2 [8]	M	
SEC_20	Does the E-MTA support HMAC-SHA authentication algorithm?	6.1.2.2 [8]	M	
SEC_21	Does the E-MTA support the SNMPv3_HMAC-MD5 Authentication Algorithm?	6.3.2 [8]	M	
Comments:				

Table A.40: E-MTA profile for IPSec ESP (transport mode)

Item	Requirement	Reference	Status	Support
SEC_22	Does the E-MTA support the IPSec anti-replay service as defined in IETF RFC 2406 [12]?	6.1.2.3 [8]	M	
SEC_23	Is the IPSec anti-replay service turned on at all times?	6.1.2.3 [8]	M	
SEC_24	Does the E-MTA automatically create IPsec Security Associations?	6.1.2.4 [8]	M	
SEC_25	Does the E-MTA automatically update IPsec Security Associations?	6.1.2.4 [8]	M	
SEC_26	Does the E-MTA automatically delete IPsec Security Associations?	6.1.2.4 [8]	M	
SEC_27	Does the E-MTA automatically re-establish IPsec Security Associations as given in clause 6.1.2.4 of TS 101 909-11 [8]?	6.1.2.4 [8]	M	
Comments:				

Table A.41: Support of key management procedures by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_28	Does the E-MTA support Kerberos/PKINIT on the MTA-CMS signalling interface?	6.1.2.4 [8]	M	
SEC_29	Does the E-MTA specify UDP port number 1293 for all key management messages between the client and the Application Server?	6.5.2 [8]	M	
SEC_30	Does the E-MTA perform a configurable backoff and resend procedure for any KDC requests that have not been acknowledged by the server?	6.4.9 [8]	M	
SEC_31	Does the E-MTA perform a configurable backoff and resend procedure for any application server requests that have not been acknowledged by the server?	6.4.9 [8]	M	
SEC_32	Does the E-MTA support the configuration backoff and resend procedure and any subsequent fault consistent with the procedure described in TS 101 909-4 [2]?	6.4.9 [8]	M	
SEC_33	Does the E-MTA ensure that the key Management for the MTA-Provisioning SNMPv3 user uses the Kerberized key management protocol as given in clause 6.5.7 of TS 101 909-11 [8]?	7.1.1.3.1 [8]	M	
SEC_34	Is the E-MTA manufactured with a public RSA key pair?	7.1.1.4 [8]	M	
SEC_35	Is the E-MTA manufactured with a private RSA key pair?	7.1.1.4 [8]	M	
SEC_36	Is the E-MTA manufactured with a X.509 device certificate?	7.1.1.4 [8]	M	
SEC_37	Is the E-MTA X.509 device certificate different from the BPI+ device certificate?	7.1.1.4 [8]	M	
SEC_38	Does the MTA use Kerberos with PKINIT to obtain a CMS service ticket as described in clause 6.4.4 [8]?	7.4.1.4.1 [8]	M	
SEC_39	Does the E-MTA execute a Kerberized key management protocol after the MTA has obtained a CMS ticket?	7.4.1.4.1 [8]	M	
Comments:				

Table A.42: Support of Kerberos / PKINIT by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_40	Once the E-MTA client support the process of Ticket Granting Ticket (TGT) from the KDC , as specified in 6.4.2 of TS 101 909-11 [8].	6.4.2 [8]	CM_1	
SEC_41	Does the E-MTA implementation use the Kerberised symmetric session key to establish a pair of keys for the IPSec ESP protocol?	6.4.2 [8]	M	
SEC_42	Does the E-MTA implementation utilize the PKINIT exchange to obtain Application Server tickets directly?	6.4.3.1 [8]	CM_1	
SEC_43	Does the E-MTA obtain Application Server tickets, using the TGT process as specified in 6.4.3.1 of TS 101 909-11 [8] ?	6.4.3.1 [8]	CM_1	
SEC_44	Does the E-MTA initiate the PKINIT exchange as given in clause 6.4.3.1 of TS 101 909-11 [8]?	6.4.3.1 [8]	CM_2	
SEC_45	Does the E-MTA use IP fragmentation to send large UDP packets?	6.4.3.1 [8]	M	
SEC_46	Does the E-MTA clock drift less than 2.5 minutes within a 7 days period?	6.4.3.1 [8]	M	
SEC_47	Is the PKINIT Grace Period ($PKINIT_{GP}$) at least 15 min?	6.4.3.1 [8]	CM_2	
SEC_48	Does the E-MTA client use the $PKINIT_{GP}$ value to refresh the TGT?	6.4.6.4 [8]	M	
SEC_49	Does the client support Ephemeral-Ephemeral Diffie-Hellman exchange?	6.4.3.1.1 [8]	M	
SEC_50	Does the client implementation of the Diffie-Hellman parameters follow the IKE specification in IETF RFC 2409 [13]?	6.4.3.1.1 [8]	M	
SEC_51	Does the client not support Static-Ephemeral Diffie-Hellman exchange?	6.4.3.1.1 [8]	M	
SEC_52	Does the E-MTA support the Kerberos AS request / AS reply messages as specified in clause 6.4.3.2 of TS 101 909-11 [8]?	6.4.3.2 [8]	M	
SEC_53	Does the E-MTA support the Kerberos AS request / AS reply exchange as specified in clause 6.4.4 of TS 101 909-11 [8]?	6.4.4 [8]	M	
SEC_54	Does the E-MTA support the Kerberos TGS Request/TGS Reply Exchange as specified in clause 6.4.5 of TS 101 909-11 [8]?	6.4.5 [8]	M	
SEC_55	Does the E-MTA client initiate the TGS Request/Reply exchange as specified in clause 6.4.5 of TS 101 909-11 [8]?	6.4.5 [8]	M	
SEC_56	Does the E-MTA client implement the TGS Request as specified in clause 6.4.5.1 of TS 101 909-11 [8]?	6.4.5.1 [8]	M	
SEC_57	Does the E-MTA support the Kerberos AP request / AP reply messages as specified in clause 6.5.3 of TS 101 909-11 [8]?	6.5.3 [8]	M	
SEC_58	Does the E-MTA support the Kerberos AP request / AP reply exchange as specified in clause 6.5.3 of TS 101 909-11 [8]?	6.5.3 [8]	M	
CM_1: At least one method must be implemented by the E-MTA. An E-MTA may optionally support both methods. CM_2: On interfaces where $PKINIT_{GP}$ is not defined, the MTA SHOULD perform PKINIT exchanges on-demand.				
Comments:				

Table A.43: PKINIT request support by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_59	Does the E-MTA implement only the fields specified in clause 6.4.3.1.1 of TS 101 909-11 [8] for the PKINIT request [PA-PK-AS-REQ]?	6.4.3.1.1 [8]	M	
SEC_60	Does the pachecksum field use the Kerberos checksum type rsa-md5?	6.4.3.1.1 [8]	M	
SEC_61	Does the E-MTA client ensure that the PA-PK-AS-REQ Certificate field contains an MTA Device Certificate?	6.4.3.1.1 [8]	M	
SEC_62	Does the E-MTA client ensure that the PA-PK-AS-REQ Certificate field contains an MTA Manufacturer Certificate?	6.4.3.1.1 [8]	M	
SEC_63	Does the E-MTA client ensure that the PA-PK-AS-REQ Certificate field does not contain Certificates other than those for the MTA Device and MTA Manufacturer?	6.4.3.1.1 [8]	M	
Comments:				

Table A.44: PKINIT reply support by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_64	Does the E-MTA implement the fields exactly as specified in clause 6.4.3.1.2 of TS 101 909-11 [8] for the PKINIT reply [PA-PK-AS-REP]?	6.4.3.1.2 [8]	M	
SEC_65	Does the client implementation of the PKINIT reply message (PA-PK-AS-REP) only use the dhSignedData choice?	6.4.3.1.2 [8]	M	
SEC_66	Does the client implementation of the dhSignedData choice parameter "digestAlgorithms" contain an algorithm identifier for SHA-1?	6.4.3.1.2 [8]	M	
SEC_67	Does the client verify that the AS Reply Kerberos etype value is des3-cbc-md5?	6.4.3.1.2 [8]	M	
SEC_68	Does the client use PA-PK-AS-REP to determine the encryption key used on the AS Reply?	6.4.3.1.2 [8]	M	
SEC_69	Does the client check the value of the nonce in the eContentfield?	6.4.3.1.2 [8]	M	
SEC_70	Does the client check the validity of the KDC certificate?	6.4.3.1.2 [8]	M	
SEC_71	Does the client check the validity of the signature in the SignerInfo field?	6.4.3.1.2 [8]	M	
SEC_72	Does the client fully support the timing related Kerberos error code [KRB-ERROR] as specified in clause 6.4.3.1.2.1 of TS 101 909-11 [8]?	6.4.3.1.2.1.1 [8]	M	
SEC_73	In the case that a KDC request fails due to a clock skew error [KRB_AP_ERR_SKEW], does the client immediately retry after adjusting the Kerberos timestamp inside the KDC Request message?	6.4.3.1.2.1.1 [8]	M	
SEC_74	Does the MTA validate the time offset returned in the clock skew error message to ensure that it does not exceed the maximum of 1 hour?	6.4.3.1.2.1.1 [8]	M	
Comments:				

Table A.45: Kerberos request support by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_75	Does the E-MTA implement only the fields specified in clause 6.5.5 [8] for the Kerberos request [KRB_AP_REQ]?	6.5.5 [8]	M	
SEC_76	Does the E-MTA implement the KRB_AP_REQ with only the MUTUAL-REQUIRED option?	6.5.5 [8]	M	
SEC_77	Does the E-MTA client verify that the authenticator Kerberos etype value is des3-cbc-md5?	6.5.5 [8]	M	
SEC_78	Does the E-MTA client fully support the timing related Kerberos error code [KRB-ERROR] as specified in clause 6.5.5.2 [8]?	6.5.5.2 [8]	M	
Comments:				

Table A.46: Support of Fully Qualified Domain Names (FQDNs) by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_79	Does the E-MTA client query KDC FQDNs for a particular realm name using DNS SRV records, as specified in annex E of TS 101 909-11 [8]?	6.4.6.2 [8]	M	
SEC_80	Is the MTA principal name formatted as type NT-SRV-HST and as specified in clause 6.4.7 of TS 101 909-11 [8]?	6.4.7 [8]	M	
SEC_81	Is the MTA FQDN Request formatted as specified in Table 6, clause 6.4.8.1 of TS 101 909-11 [8]?	6.4.8.1 [8]	M	
SEC_82	Is the MTA FQDN Request parameter "MUTUAL-REQUIRED - mutual authentication required" always set?	6.4.8.1 [8]	M	
SEC_83	Does the E-MTA implementation of MTA FQDN Request comply with the parameters as specified in clause 6.4.8.1 of TS 101 909-11 [8]?	6.4.8.1 [8]	M	
SEC_84	Is the MTA FQDN Reply formatted as specified in clause 6.4.8.2, table 8 of TS 101 909-11 [8]?	6.4.8.2 [8]	M	
SEC_85	Does the E-MTA implementation of MTA FQDN Reply comply with the parameters as specified in clause 6.4.8.2 of TS 101 909-11 [8]?	6.4.8.1 [8]	M	
SEC_86	Does the Application Server (AS) Request sent by the MTA include the PROV-SRV-LOCATION pre-authenticator that the KDC can use to locate the Provisioning Server?	6.4.8.4 [8]	M	
SEC_87	Does the E-MTA specify the pre-authenticator type as -1?	6.4.8.4 [8]	M	
Comments:				

Table A.47: Kerberized IPSec support by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_88	Does the E-MTA client support the mechanisms for the Kerberized key management profile specific to IPSec ESP in transport mode as specified in clause 6.5.6 of TS 101 909-11 [8]?	6.5.6 [8]	M	
SEC_89	Does the E-MTA client support the procedures for deriving the IPSec keys from the Kerberos subkey as specified in clause 6.5.6.1 of TS 101 909-11 [8]?	6.5.6.1 [8]	M	
SEC_90	Does the E-MTA client handle the periodic re-establishment of IPSec Associations as specified in clause 6.5.6.2 of TS 101 909-11 [8]?	6.5.6.2 [8]	M	
SEC_91	Does the E-MTA client handle the expiration of IPSec Security Associations as specified in clause 6.5.6.3 of TS 101 909-11 [8]?	6.5.6.3 [8]	M	
SEC_92	Does the Client ignore IP packets from the Application Server received with an unrecognized IPSec Security Association?	6.5.6.5.2 [8]	M	
SEC_93	Does the eMTA client at the key management layer follow the recovery steps as given in clause 6.5.6.5.3 of TS 101 909-11 [8] when the application server loses an outgoing IPSec SA ?	6.5.6.5.2 [8]	M	
Comments:				

Table A.48: Kerberized SNMP v3 support by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_94	Does the E-MTA support the Kerberized key management profile specific to SNMPv3 as given in clause 6.5.7 of TS 101 909-11 [8] ?	6.5.7 [8]	M	
SEC_95	Does the E-MTA ensure that the Application-specific data field in the AP Reply management message is set to the concatenation as given in Table 12, clause 6.5.7 of TS 101 909-11 [8].	6.5.7 [8]	M	
SEC_96	When the SNMPv3 keys are lost does the E-MTA ensure the recovery steps given in clause 6.5.7.5 of TS 101 909-11 [8] are followed for re-establishment	6.5.7.5 [8]	M	
Comments:				

Table A.49: End-to-end security support for RTP and RTCP

Item	Requirement	Reference	Status	Support
SEC_97	Does the E-MTA ensure that the RTP_AES Transform ID is supported?	6.6 [8]	M	
SEC_98	Does the E-MTA ensure that the Authentication Algorithm AUTH_NULL is supported?	6.6 [8]	M	
SEC_99	Does the E-MTA ensure that the Authentication Algorithm RTP_MMH_2 is supported?	6.6 [8]	M	
SEC_100	Does the E-MTA ensure that the Authentication Algorithm RTP_MMH_4 is supported?	6.6 [8]	M	
SEC_101	Does the E-MTA ensure that the AES-CBC Transform ID is supported?	6.7 [8]	M	
Comments:				

Table A.50: Device Provisioning

Item	Requirement	Reference	Status	Support
SEC_102	When an MTA device is inserted into a network and does not have an association with the billing record does it still support a minimal voice communication service?	7.1.1 [8]	O	
SEC_103	During the creation of an E-MTA configuration file, if the pktcMtaDevConfigKey is set, then does the MTA use this key to decrypt the configuration file?	7.1.1.2.2 [8]	M	
SEC_104	During the creation of an E-MTA configuration file, if the pktcMtaDevConfigKey is set and the MTA does not use this key to decrypt the configuration file, does it assume the file is not encrypted?	7.1.1.2.2 [8]	M	
SEC_105	Does the E-MTA ensure the configuration file is re-encrypted and TFTP server directory updated with the new file as given in clause 7.1.1.2.2 of TS 101 909-11 [8]?	7.1.1.2.2 [8]	M	
Comments:				

Table A.51: Security call flows supported by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_106	Does the E-MTA ensure the security flows as specified in clause 7.1.1.2.5 of TS 101 909-11 [8] are performed immediately following the provisioning process?	7.1.1.2.5 [8]	M	
SEC_107	Does the E-MTA obtain multiple Kerberos Tickets in the event that different MTA ports are configured for a different group of CMSs or other application servers?	7.1.1.2.5.1 [8]	M	
Comments:				

Table A.52: Cryptographic mechanisms supported by the E-MTA

Item	Requirement	Reference	Status	Support
SEC_108	Does the E-MTA ensure that the IPSec ESP is used to secure the MTA-CMS interface?	7.4.1.3 [8]	M	
SEC_109	Does the E-MTA ensure that the IPSec keys are derived using mechanisms as specified in clause 6.5.6 of TS 101 909-11 [8]?	7.4.1.3 [8]	M	
SEC_110	Does the E-MTA support the cryptographic mechanisms as specified in clause 7.6.2 of TS 101 909-11 [8]?	7.6.2 [8]	M	
Comments:				

Table A.53: Generic structure of IPCablecom certificates

Item	Requirement	Reference	Status	Support
SEC_111	Does the E-MTA implement version 3 of the X.509 certificates?	8.1.1 [8]	M	
SEC_112	Do the certificates comply with RFC 2459 [14]?	8.1.1 [8]	M	
SEC_113	Does the E-MTA implement the public key type OID as 1.2.840.113549.1.1.1?	8.1.2 [8]	M	
SEC_114	Does the E-MTA implement the public exponent for all RSA IPCablecom keys as F4-65537?	8.1.2 [8]	M	
SEC_115	Does the E-MTA implement the root certificate as part of a certificate chain containing the MTA Root Certificate, MTA Manufacturer Certificate and the MTA Device Certificate?	8.2.2.1 [8]	M	
SEC_116	Does the E-MTA implement the manufacturer certificate as part of a certificate chain containing the MTA Root Certificate, MTA Manufacturer Certificate and the MTA Device Certificate?	8.2.2.2 [8]	M	
SEC_117	Is the manufacturer certificate included in the MTA secure code download?	8.2.2.2 [8]	M	
SEC_118	Does the E-MTA support the IPCablecom telephony certificate hierarchy as given in clause 8.2.3 [8]	8.2.3 [8]	M	
Comments:				

Annex B (informative): Bibliography

ETSI TS 101 909-18: "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 18: Embedded Media Terminal Adapter (e-MTA) offering an interface to analogue terminals and Cable Modem".

ITU-T Recommendation V.8 bis (20/00): "Procedures for the identification and selection of common modes of operation between data circuit-terminating equipments (DCEs) and between data terminal equipments (DTEs) over the public switched telephone network and on leased point-to-point telephone-type circuits".

ITU-T Recommendation V.25 bis (19/96): "Synchronous and asynchronous automatic dialling procedures on switched networks".

ITU-T Recommendation V.25 ter (19/97): "Serial asynchronous automatic dialling and control".

ITU-T Recommendation T.30 Corrigendum 1 (20/01): "Procedure for document facsimile transmission in the general switched telephone network".

ETSI EN 300 166: "Transmission and Multiplexing (TM); Physical and electrical characteristics of hierarchical digital interfaces for equipment using the 2 048 kbit/s - based plesiochronous or synchronous digital hierarchies".

History

Document history		
V1.1.1	June 2003	Publication