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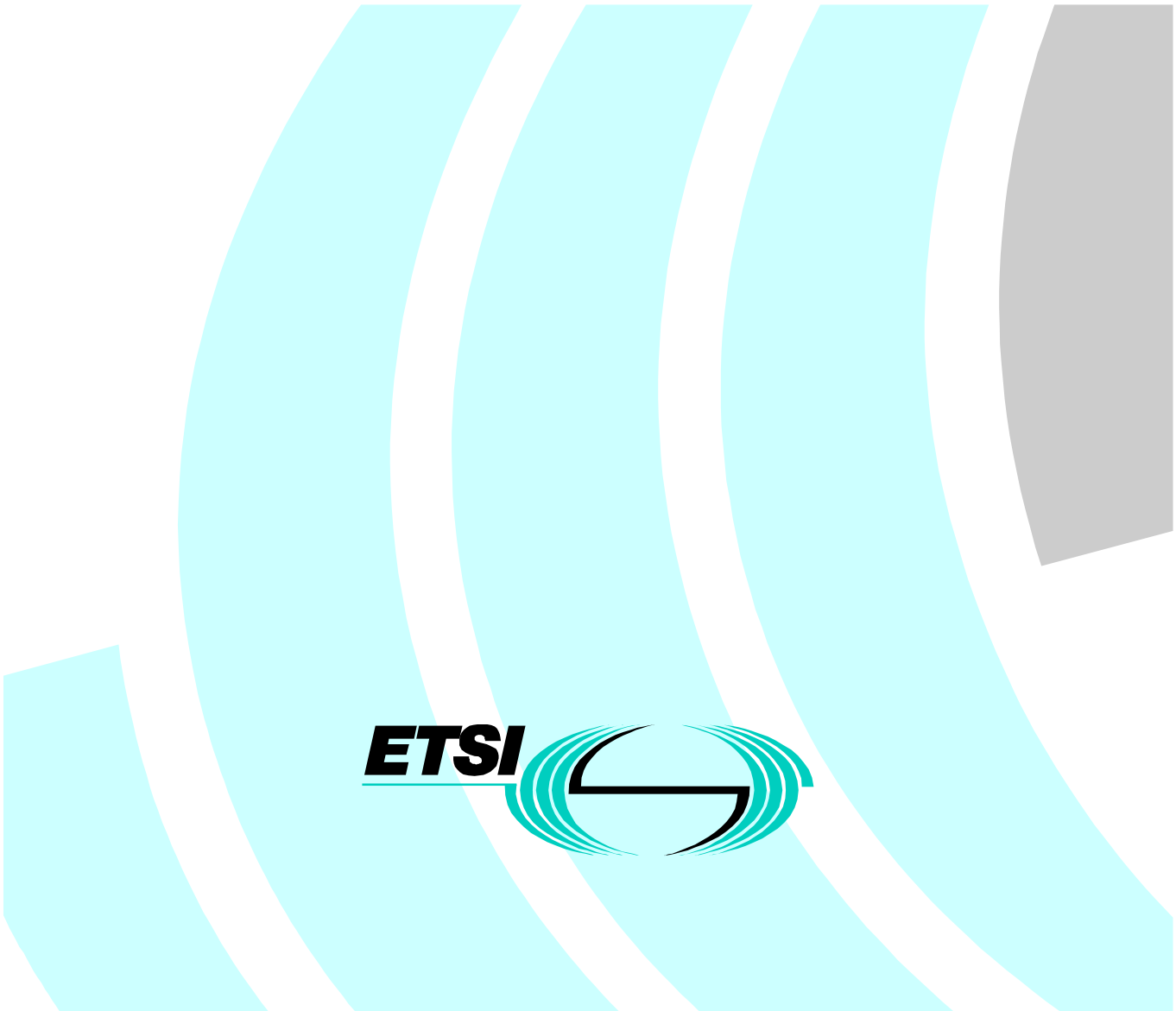
European Standard (Telecommunications series)

Broadband Integrated Services Digital Network (B-ISDN); Signalling System No.7; Messages Transfer Part (MTP) level 3 functions and messages to support international interconnection; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification



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Contents

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services Protocol for Advanced Networks (SPAN), and is now submitted for the ETSI standards One-step Approval Procedure.

The present document is part 2 of a multi-part EN covering the Broadband Integrated Services Digital Network (B-ISDN); Signalling System No.7; Messages Transfer Part (MTP) level 3 functions and messages to support international interconnection, as identified below:

Part 1: "Protocol specification [ITU-T Recommendation Q.2210 (1996), modified]";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

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 given OSI protocol. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for Message Transfer Part (MTP) level 3 functions and messages, signalling protocol of Signalling System No.7 for use between and, optionally, in public networks as specified in EN 301 004-1 [1] based on ETS 300 008-1 [2] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4].

The supplier of a protocol implementation that is claimed to conform to EN 301 004-1 [1] based on ETS 300 008-1 [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, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] EN 301 004-1 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Signalling System No.7; Message Transfer Part (MTP) level 3 functions and messages to support international interconnection; Part 1: Protocol specification [ITU-T Recommendation Q.2210 (1996), modified]".

[2] ETS 300 008-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Message Transfer Part (MTP) to support international interconnection; Part 1: Protocol specification [ITU-T Recommendations Q.701 (1993), Q.702 (1988), Q.703 to Q.706 (1993), modified]".

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

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

[5] ITU-T Recommendation Q.701 (1993): "Functional description of the message transfer part (MTP) of Signalling System No. 7".

[6] ITU-T Recommendation Q.704 (1996): "Signalling network functions and messages".

[7] ITU-T Recommendation Q.707 (1988): "Testing and maintenance".

[8] ITU-T Recommendation Q.2210 (1996): "Message transfer part level 3 functions and messages using the services of ITU-T Recommendation Q.2140".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the definitions in EN 301 004-1 [1], ISO/IEC 9646-1 [3] and SO/IEC 9646-7 [4] apply. In particular, the following terms defined in ISO/IEC 9646-1 [3] 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. The ICS can take several forms: protocol ICS (PICS), profile ICS, profile specific ICS, and information object ICS.

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

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

3.2 Symbols

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

c	Conditional
n/a	Not Applicable
o	Optional
o.<n>	Optional, but, if chosen, support is required for either at least one or only one of the options in the group labelled by the same numeral <n>
x	Excluded

3.3 Abbreviations

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

B-ISDN	Broadband Integrated Services Digital Network
DPC	Destination Point Code
ICS	Implementation Conformance Statement
MTP	Messages Transfer Part
OPC	Originating Point Code
OSI	Open System Interconnection
PICS	Protocol Implementation Conformance Statement

4 Conformance

A PICS proforma that conforms to this PICS proforma specification shall be technically equivalent to annex A, and shall preserve the numbering and ordering of the items in annex A.

A PICS that conforms to this PICS proforma specification shall:

a) describe an implementation which conforms to EN 301 004-1 [1] based on ETS 300 008-1 [2];

b) be a conforming PICS proforma, which has been completed in accordance with the instructions for completion given in clause A.1;

c) include the information necessary to uniquely identify both the supplier and the implementation.

Annex A (normative): PICS proforma for EN 301 004-1 based on ETS 300 008-1

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 EN 301 004-1 [1] based on ETS 300 008-1 [2] may provide information about the implementation in a standardized manner.

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

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the ETS;
- global statement of conformance;
- capabilities.

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 [4].

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 [4], 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;
i	out of scope ("i" stands for irrelevant) - this capability is outside the scope of the given base standard and hence irrelevant and not subject to conformance testing. No answer is requested from the supplier;

o.i qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an 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 an unique conditional status expression which is defined immediately following the table.

Reference column

The reference column makes reference to EN 301 004-1 [1] based on ETS 300 008-1 [2], except where explicitly stated otherwise.

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 [4], 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 "?" (e.g. ?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: ?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 [4], 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. Unless specifically covered by a table listing PDU parameters and giving details regarding their status, all parameters of a PDU are required to be fully supported on sending. Support of a PDU therefore implies full support of all required PDU parameters.

Values allowed column

The values allowed column contains the type, the list, the range, or the length of values allowed. The following notations are used:

- range of values: <min value> .. <max value>;

  example: 5 .. 20;

- list of values: <value1>, <value2>, ..., <valueN>;

  example: 2, 4, 6, 8, 9;

  example: '1101'B, '1011'B, '1111'B;

  example: '0A'H, '34'H, '2F'H;

- list of named values: <name1>(<val1>), <name2>(<val2>), ..., <nameN>(<valN>;

  example: reject(1), accept(2);

- length: size (<min size> .. <max size>);

  example: size (1 .. 8).

Values supported column

The values supported column shall be filled in by the supplier of the implementation. In this column, the values or the ranges of values supported by the implementation shall be indicated.

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 solids 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 1: A.5/4 is the reference to the answer of item 4 in table 5 of annex A.

EXAMPLE 2: 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 or supported column boxes provided, using the notation described in subclause 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 subclauses 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

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A.2.2 Implementation Under Test (IUT) identification

IUT name:

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IUT version:

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A.2.3 System Under Test (SUT) identification

SUT name:

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Hardware configuration:

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Operating system:

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A.2.4 Product supplier

Name:

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Address:

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Telephone number:

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Facsimile number:

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E-mail address:

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Additional information:

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A.2.5 Client (if different from product supplier)

Name:

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Address:

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Telephone number:

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Facsimile number:

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E-mail address:

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Additional information:

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A.2.6 PICS contact person

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

Name:

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Telephone number:

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Facsimile number:

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E-mail address:

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Additional information:

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A.3 Identification of the protocol

This PICS proforma applies to the following standard:

- EN 301 004-1 [1]: "Broadband Integrated Services Digital Network (ISDN); Signalling System No.7; Message Transfer Part (MTP) level 3 functions and messages to support international connection; Part 1: Protocol specification [ITU-T Recommendation Q.2210 (1996) modified]".

A.4 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.5 Capabilities

This clause contains the core of the PICS proforma for the MTP protocol, as specified in the ITU-T Recommendations or EN 301 004-1 [1] based on ETS 300 008-1 [2] where this modifies the equivalent ITU-T Recommendations, for MTP level 3. The proforma are presented in the form of tables. Subclauses A.5.1 to A.5.10 contain the individual clauses of the PICS proforma.

A.5.1 Major capabilities - MTP level 3

The supplier of the implementation shall state whether or not the (signalling) procedures for the MTP level 3 as specified in ITU-T Recommendations Q.701 [5], Q.704 [6] and Q.2210 [8] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2] are supported, in the tables below.

Table A.1: Signalling message handling

Item	Procedure	Reference	Status	Support
1/1	Message routing function	Q.704 [6] - 2.3	m	
1/2	Message discrimination function	Q.704 [6] - 2.4.1	m	
1/3	STP functionality	Q.704 [6] - 2.4.1	o	
1/4	Message distribution function	Q.704 [6] - 2.4.2	m	
1/5	Quasi-associated mode of signalling	Q.701 [5] - 3.1.2	o	

Comments:

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Table A.2: Signalling network management

Item	Procedure	Reference	Status	Support
2/1	Signalling link failure	Q.704 [6] - 3.3.1	m	
2/2	Signalling link restoration	Q.704 [6] - 3.3.2	m	
2/3	Signalling link deactivation	Q.704 [6] - 3.3.3	m	
2/4	Signalling link activation	Q.704 [6] - 3.3.4	m	
2/5	Signalling link blocking	Q.704 [6] - 3.3.5	m	
2/6	Signalling link unblocking	Q.704 [6] - 3.3.6	m	
2/7	Signalling link Inhibiting	Q.704 [6] - 3.3.7	m	
2/8	Signalling link uninhibiting	Q.704 [6] - 3.3.8	m	
2/9	Signalling route restricted	Q.704 [6] - 3.5.3	x	
2/10	Signalling route unavailable	Q.704 [6] - 3.5.1	m	
2/11	Signalling route available	Q.704 [6] - 3.5.2	m	
2/12	Signalling point unavailable	Q.704 [6] - 3.7.1	m	
2/13	Signalling point available	Q.704 [6] - 3.7.2	m	
2/14	Signalling point congested	Q.704 [6] - 3.7.3	o (note)	
2/15	Procedures used in connection with link congestion status changes	Q.704 [6] - 3.8.3	m	
2/16	Congestion status of signalling route sets	Q.704 [6] - 3.8.4	m	
2/17	Procedures used in connection with route set congestion status changes	Q.704 [6] - 3.8.5	m	
NOTE: This option is implementation dependent.				

Comments:

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Table A.3: Signalling traffic management

Item	Procedure	Reference	Status	Support
3/1	Normal routing situation	Q.704 [6] - 4.2	m	
3/2	Signalling link unavailability	Q.704 [6] - 4.3	m	
3/3	Signalling link availability	Q.704 [6] - 4.4	m	
3/4	Signalling route unavailability	Q.704 [6] - 4.5	m	
3/5	Signalling route availability	Q.704 [6] - 4.6	m	
3/6	Signalling route restriction	Q.704 [6] - 4.7	x	
3/7	Signalling point availability	Q.704 [6] - 4.8	m	

Comments:

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Table A.4: Changeover

Item	Procedure	Reference	Status	Support
4/1	Changeover initiation and actions	Q.2210 [8] - 9.2	m	
4/2	Buffer updating procedure	Q.704 [6] - 5.4	m	
4/3	Retrieval and diversion of traffic	Q.704 [6] - 5.5	m	
4/4	Emergency changeover procedures	Q.704 [6] - 5.6 Q.2210 [8] - 9.2	m (note)	
4/5	Procedures in abnormal conditions	Q.704 [6] - 5.7	m	
NOTE: The invocation of this procedure may be implementation dependent.				

Comments:

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Table A.5: Changeback

Item	Procedure	Reference	Status	Support
5/1	Changeback initiation and actions	Q.704 [6] - 6.2	m	
5/2	Sequence control procedure	Q.704 [6] - 6.3	m	
5/3	Time-controlled diversion procedures	Q.704 [6] - 6.4	m	
5/4	Changeback between linksets always uses time controlled procedures	Q.704 [6] - 6.2.5	o	
5/5	Changeback - abnormal conditions	Q.704 [6] - 6.5	m	

Comments:

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Table A.6: Forced rerouting

Item	Procedure	Reference	Status	Support
6/1	Forced rerouting initiation and actions	Q.704 [6] - 7.2	c61	
c61: IF A.1/5 THEN m ELSE n/a.				

Comments:

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Table A.7: Controlled rerouting

Item	Procedure	Reference	Status	Support
7/1	Controlled rerouting initiation and actions	Q.704 [6] - 8.2	c71	
c71:	IF A.1/5 THEN m ELSE n/a.			

Comments:

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Table A.8: MTP restart

Item	Procedure	Reference	Status	Support
8/1	Actions in a restarting signalling point (having the transfer function)	Q.704 [6] - 9.2.1, 9.2.2, 9.2.4	c81	
8/2	Actions in a restarting signalling point (having no transfer function)	Q.704 [6] - 9.2.1, 9.2.3, 9.2.4	c82	
8/3	Actions in a signalling point X adjacent to a restarting signalling point	Q.704 [6] - 9.3	m	
8/4	Short term isolations	Q.704 [6] - 9.4	m	
8/5	Actions in signalling point X on receipt of unexpected TRA message	Q.704 [6] - 9.5	m	
8/6	All signalling routes to be allowed on restart in restarting node	Q.704 [6] - 9.6.1	m	
8/7	All signalling routes through restarted adjacent node allowed unless TFPs have been received	Q.704 [6] - 9.6.2	c84	
8/8	Handling of signalling route set test messages	Q.704 [6] - 9.6.3	c81	
8/9	Handling of late link restorations or TFA reception in phase 2 after sending TFPs	Q.704 [6] - 9.6.4 1st sentence	c81	
8/10	Handling of late link restorations or TFA reception in phase 2 before sending TFPs (see note)	Q.704 [6] - 9.6.4 2nd sentence	c83	
8/11	Linkset failures or TFP reception in phase 2 are handled (within or after restart)	Q.704 [6] - 9.6.4 3rd sentence	c81	
8/12	Availability of adjacent node through receipt of TFA or TRA	Q.704 [6] - 9.6.5	c84	
8/13	Discarding of messages during restart	Q.704 [6] - 9.6.6	m	
8/14	Discarding of messages in adjacent point	Q.704 [6] - 9.6.7	m	
8/15	Co-ordination of different MTP networks during restart	Q.704 [6] - 9.6.8	o	
NOTE:	Comments on the implementation of this option should be given.			
c81:	IF A.1/3 THEN m ELSE n/a.			
c82:	IF A.1/3 THEN n/a ELSE m.			
c83:	IF A.1/3 THEN o ELSE n/a.			
c84:	IF A.1/5 THEN m ELSE n/a.			

Comments:

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Table A.9: Management inhibiting

Item	Procedure	Reference	Status	Support
9/1	Inhibiting initiations and actions	Q.704 [6] - 10.2	m	
9/2	Uninhibiting initiations and actions	Q.704 [6] - 10.3	m	
9/3	Receipt of unexpected management inhibition messages	Q.704 [6] - 10.4	m	
9/4	Management inhibited link status and processor recovery	Q.704 [6] - 10.5	m	
9/5	Inhibit test procedure	Q.704 [6] - 10.6	m	

Comments:

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Table A.10: Signalling traffic flow control

Item	Procedure	Reference	Status	Support
10/1	Signalling routeset unavailability	Q.704 [6] - 11.2.1	m	
10/2	Signalling routeset availability	Q.704 [6] - 11.2.2	m	
10/3	Count on message	Q.704 [6] - 11.2.3.1	o.1	
10/4	Count on octet	Q.704 [6] - 11.2.3.1	o.1	
10/5	for the congested routeset	Q.704 [6] - 11.2.3.1	o.2	
10/6	for any link of the congested routeset	Q.704 [6] - 11.2.3.1	o.2	
10/7	for any linkset of the congested routeset	Q.704 [6] - 11.2.3.1	o.2	
10/8	for any congested link of the congested routeset	Q.704 [6] - 11.2.3.1	o.2	
10/9	User Part availability control - sending UPU	Q.704 [6] - 11.2.7	o	
10/10	User Part availability control - receiving UPU	Q.704 [6] - 11.2.7	m	
o.1: One, and only one option shall be chosen. o.2: One, and only one option shall be chosen.				

Comments:

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Table A.11: Signalling link management

Item	Procedure	Reference	Status	Support
11/1	Basic signalling link management procedures	Q.704 [6] - 12.2	m	
11/2	Signalling link management procedures based on automatic allocation of signalling terminals	Q.704 [6] - 12.3	x	
11/3	Signalling link management procedures based on automatic allocation of signalling data links and signalling terminals	Q.704 [6] - 12.4	x	
11/4	Automatic allocation of signalling terminals	Q.704 [6] - 12.5	x	
11/5	Automatic allocation of signalling data links	Q.704 [6] - 12.6	x	
11/6	Different signalling link management procedures at the two ends of a link set	Q.704 [6] - 12.7	x	
NOTE: Items 11/2 and 11/4 have no protocol relevance.				

Comments:

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Table A.12: Signalling route management

Item	Procedure	Reference	Status	Support
12/1a	Transfer prohibited	Q.704 [6] - 13.2.1, 13.2.2	c121	
12/1b	Transfer prohibited	Q.704 [6] - 13.2.3, 13.2.4	c122	
12/2a	Transfer allowed	Q.704 [6] - 13.3.1, 13.3.2	c121	
12/2b	Transfer allowed	Q.704 [6] - 13.3.3, 13.3.4	c122	
12/3	Transfer restricted (national option)	Q.704 [6] - 13.4	x	
12/4	Signalling-route-set-test	Q.704 [6] - 13.5	c122	
12/5	Transfer controlled (international network)	Q.704 [6] - 13.6	c123	
12/6	Transfer controlled (national option with congestion priorities)	Q.704 [6] - 13.7	x	
12/7	Transfer controlled (national option without congestion priorities)	Q.704 [6] - 13.8	x	
12/8	Signalling-route-set-congestion-test (national option)	Q.704 [6] - 13.9	x	
c121: IF A.1/3 THEN m ELSE x. c122: IF A.1/5 THEN m ELSE n/a. c123: IF A.1/3 THEN m ELSE o.				

Comments:

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A.5.2 Timers used in MTP level 3

The supplier of the implementation shall state whether or not the following timers, used by the MTP level 3 protocol, as specified in ITU-T Recommendation Q.704 [6] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2] are supported and their value or range(s), in the table below.

Table A.13: Timers - MTP level 3

Item	Timer	Reference	Status	Support	Values allowed	Values supported
13/1	T1	Q.704 [6] - 16.8	m		500 - 1 200 ms	
13/2	T2	Q.704 [6] - 16.8	m		700 - 2 000 ms	
13/3	T3	Q.704 [6] - 16.8	c222		500 - 1 200 ms	
13/4	T4	Q.704 [6] - 16.8	m		500 - 1 200 ms	
13/5	T5	Q.704 [6] - 16.8	m		500 - 1 200 ms	
13/6	T6	Q.704 [6] - 16.8	c222		500 - 1 200 ms	
13/7	T7	Q.704 [6] - 16.8	n/a		1 - 2 s	
13/8	T8	Q.704 [6] - 16.8	c221		800 - 1 200 ms	
13/9	T9	Q.704 [6] - 16.8	n/a		-	
13/10	T10	Q.704 [6] - 16.8	c222		30 - 60 s	
13/11	T11	Q.704 [6] - 16.8	n/a		30 - 90 s	
13/12	T12	Q.704 [6] - 16.8	m		800 - 1 500 ms	
13/13	T13	Q.704 [6] - 16.8	m		800 - 1 500 ms	
13/14	T14	Q.704 [6] - 16.8	m		2 - 3 s	
13/15	T15	Q.704 [6] - 16.8	n/a		2 - 3 s	
13/16	T16	Q.704 [6] - 16.8	n/a		1,4 - 2 s	
13/17	T17	Q.704 [6] - 16.8	m		800 - 1 500 ms	
13/18	T18	Q.704 [6] - 16.8	c221		implementation dependent & < T20	
13/19	T19	Q.704 [6] - 16.8	m		67 to 69 s	
13/20	T20	Q.704 [6] - 16.8	m		59 to 61 s	
13/21	T21	Q.704 [6] - 16.8	m		63 to 65 s	
13/22	T22	Q.704 [6] - 16.8	m		3 - 6 min	
13/23	T23	Q.704 [6] - 16.8	m		3 - 6 min	
13/24	T24	Q.704 [6] - 16.8	n/a		500 ms	
c221: IF A.1/3 THEN m ELSE n/a. c222: IF A.1/5 THEN m ELSE n/a.						

Comments:

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A.5.3 Messages used in MTP level 3

The supplier of the implementation shall state whether or not the following messages used by the MTP level 3 protocol, as specified in ITU-T Recommendations Q.701 [5] and Q.704 [6] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2] are supported, in the tables below.

The supplier shall indicate the status of support for sending and receiving each message.

Table A.14: Messages - MTP level 3

Item	Message	Reference	Sending status	Sending support	Receipt status	Receipt support
14/1	COO	Q.704 [6] - 15.4	i		i	
14/2	COA	Q.704 [6] - 15.4	i		i	
14/3	CBD	Q.704 [6] - 15.5	m		m	
14/4	CBA	Q.704 [6] - 15.5	m		m	
14/5	ECO	Q.704 [6] - 15.6	m		m	
14/6	ECA	Q.704 [6] - 15.6	m		m	
14/7	RST	Q.704 [6] - 15.10	c144		c141	
14/8	RSR	Q.704 [6] - 15.10	x		x	
14/9	TFC	Q.704 [6] - 15.15	c142		m	
14/10	TFP	Q.704 [6] - 15.7	c143		c144	
14/11	TFR	Q.704 [6] - 15.9	x		x	
14/12	TFA	Q.704 [6] - 15.8	c143		c144	
14/13	RCT	Q.704 [6] - 15.16	x		x	
14/14	LIN	Q.704 [6] - 15.11	o		m	
14/15	LUN	Q.704 [6] - 15.11	m		m	
14/16	LIA	Q.704 [6] - 15.11	o		m	
14/17	LUA	Q.704 [6] - 15.11	m		m	
14/18	LID	Q.704 [6] - 15.11	m		m	
14/19	LFU	Q.704 [6] - 15.11	m		m	
14/20	LLT	Q.704 [6] - 15.11	o		m	
14/21	LRT	Q.704 [6] - 15.11	c146		m	
14/22	TRA	Q.704 [6] - 15.12	m		m	
14/23	DLC	Q.704 [6] - 15.13	x		x	
14/24	CSS	Q.704 [6] - 15.14	x		x	
14/25	CNS	Q.704 [6] - 15.15	x		x	
14/26	CNP	Q.704 [6] - 15.15	x		x	
14/27	UPU	Q.704 [6] - 15.17	c145		m	
14/28	XCO	Q.2210 [8] - 9.8.1	m		m	
14/29	XCA	Q.2210 [8] - 9.8.1	m		m	

c141: IF A.1/3 THEN m ELSE n/a.
c142: IF A.1/3 THEN m ELSE o.
c143: IF A.1/3 THEN m ELSE x.
c144: IF A.1/5 THEN m ELSE n/a.
c145: IF A.10/9 THEN m ELSE n/a.
c146: IF A.14/16 THEN m ELSE o.

Comments:

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Table A.15: Treatment of spare fields

Item	Procedure	Reference	Status	Support
15/1	Spare fields/subfields handling	Q.701 [5] - 6.2	m	

Comments:

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A.5.4 Testing and maintenance procedures

A.5.4.1 Major capabilities in testing and maintenance procedures

The supplier of the implementation shall state whether or not the procedures described in ITU-T Recommendation Q.707 [7] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2] are supported, in the table below.

Table A.16: Testing and maintenance procedures

Item	Procedure	Reference	Status	Support
16/1	Signalling link testing (periodic)	Q.707 [7] - 2	o	
16/2	Signalling link testing after activation or restoration	Q.707 [7] - 2	m	
16/3	Responding to signalling test message	Q.707 [7] - 2	m	
16/4	Signalling link goes out of service when the periodic test signal fails	Q.707 [7] - 2	o (note)	
NOTE: Specify the IUT behaviour if not supported.				

Comments:

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A.5.4.2 Timers used in testing and maintenance procedures

The supplier of the implementation shall state whether or not the following timers, used by MTP testing and maintenance procedures, as specified in ITU-T Recommendation Q.707 [7] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2], are supported and their value or range, in the table below.

Table A.17: Timers -Testing and maintenance procedures

Item	Timer	Reference	Status	Support	Values allowed	Values supported
17/1	T1	Q.707 [7] - 5.5	m		4 - 12 s	
17/2	T2	Q.707 [7] - 5.5	c281		30 - 90 s	
c281: IF A.16/1 THEN m ELSE n/a.						

Comments:

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A.5.4.3 Messages used in testing and maintenance procedures

The supplier of the implementation shall state whether or not the following messages used by the testing and maintenance procedures as specified in ITU-T Recommendation Q.707 [7] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2] are supported, in the table below.

The supplier shall indicate the status of support for sending and receiving each message.

Table A.18: Messages - Testing and maintenance procedures

Item	Message	Reference	Sending status	Sending support	Receipt status	Receipt support
18/1	SLTM	Q.707 [7] - 5.4	m		m	
18/2	SLTA	Q.707 [7] - 5.4	m		m	

Comments:

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A.5.5 Protocol error handling

The supplier of the implementation shall state whether or not the protocol error handling functions for MTP as specified in ITU-T Recommendation Q.701 [5] as modified by EN 301 004-1 [1] based on ETS 300 008-1 [2] are supported, in the table below.

Table A.19: Invalid messages for MTP 3

Item	Procedure	Reference	Status	Support
19/1	Messages containing an unallocated SIO value	Q.701 [5] - 6.1.1	o	
19/2	Messages containing an unallocated H0/H1 code	Q.701 [5] - 6.1.2	m	
19/3	Messages containing an unallocated value in a recognized field	Q.701 [5] - 6.1.3	m	

Comments:

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History

Document history			
V1.1.1	August 1999	One-step Approval Procedure	OAP 9954: 1999-08-11 to 1999-12-10