



Technical Specification

**Intelligent Transport Systems (ITS);
Communications Access for Land Mobiles (CALM);
Test specifications for ITS station management (ISO 24102);
Part 1: Protocol Implementation Conformance Statement
(PICS) specification**

Reference

DTS/ITS-0020010

Keywords

CALM, ITS, PICS, testing

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Contents

Intellectual Property Rights	5
Foreword.....	5
Introduction	5
1 Scope	6
2 References	6
2.1 Normative references	6
2.2 Informative references.....	6
3 Definitions and abbreviations.....	7
3.1 Definitions.....	7
3.2 Abbreviations	7
4 Conformance to this PICS proforma specification.....	7
Annex A (normative): PICS proforma for "Protocols for local ITS station management"	8
A.1 Guidance for completing the PICS proforma.....	8
Annex B (normative): PICS proforma for "Protocols for remote ITS station management"	9
B.1 Guidance for completing the PICS proforma.....	9
Annex C (normative): PICS proforma for the "ITS station-internal management communications protocol"	10
C.1 Guidance for completing the PICS proforma.....	10
C.1.1 Purposes and structure.....	10
C.1.2 Abbreviations and conventions	10
C.1.3 Instructions for completing the PICS proforma.....	12
C.2 Identification of the implementation	12
C.2.1 Date of the statement.....	12
C.2.2 Implementation Under Test (IUT) identification	12
C.2.3 System Under Test (SUT) identification.....	13
C.2.4 Product supplier.....	13
C.2.5 Client (if different from product supplier).....	13
C.2.6 PICS contact person	14
C.3 Identification of the protocol.....	14
C.4 Global statement of conformance.....	15
C.5 Basic functionality.....	15
C.6 Protocol elements	15
C.6.1 Service access points	15
C.6.2 PDUs	15
C.6.3 PDU elements.....	15
C.7 Protocol procedures.....	16
C.8 Values.....	17
C.9 Security.....	17
Annex D (normative): PICS proforma for the "Fast service advertisement protocol"	18
D.1 Guidance for completing the PICS proforma.....	18
D.1.1 Purposes and structure.....	18
D.1.2 Abbreviations and conventions	18

D.1.3	Instructions for completing the PICS proforma.....	20
D.2	Identification of the implementation	20
D.2.1	Date of the statement	20
D.2.2	Implementation Under Test (IUT) identification	20
D.2.3	System Under Test (SUT) identification	21
D.2.4	Product supplier.....	21
D.2.5	Client (if different from product supplier).....	21
D.2.6	PICS contact person	22
D.3	Identification of the protocol.....	22
D.4	Global statement of conformance.....	23
D.5	Basic functionality.....	23
D.6	Protocol elements	24
D.6.1	Processing entities	24
D.6.2	Service access points	24
D.6.2A	PDU's	24
D.6.3	PDU elements.....	24
D.6.3.1	Service initialization phase	24
D.7	Protocol procedures.....	25
D.7.1	Service provider	25
D.7.2	Service user	26
D.7.3	Supported protocols.....	26
History	28

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Intelligent Transport System (ITS).

The present document is part 1 of a multi-part deliverable covering "Protocol Implementations and Conformance Statement" (PICS) specifications for ITS station management protocols as identified below:

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

Introduction

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

1 Scope

The present document provides the "Protocol Implementation Conformance Statement" (PICS) proforma for the ISO protocols specified in ISO/DIS 24102-4 [1] and ISO/DIS 24102-5 [2] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4], ETS 300 406 [3] and EG 202 798 [i.1].

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ISO/DIS 24102-4: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 4: Station-internal management communications".

NOTE: Available at http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=61565.

- [2] ISO/DIS 24102-5: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 5: Fast service advertisement protocol (FSAP)".

NOTE: Available at http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=61566.

- [3] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

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

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EG 202 798: "Intelligent Transport Systems (ITS); Testing; Framework for conformance and interoperability testing".

- [i.2] ISO/DIS 24102-1: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 1: Local management".

- [i.3] ISO/NP 24102-2: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 2: Remote management".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1], [2], [3], [4], [i.1] and the following apply:

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

Protocol Implementation Conformance Statement (PICS): 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.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in [1], [2], [3], [4], [i.1] and the following apply:

FSAP	Fast Service Advertisement Protocol
PICS	Protocol Implementation Conformance Statement
IUT	Implementation Under Test
SCS	System Conformance Statement
SUT	System Under Test

4 Conformance to this PICS proforma specification

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

A PICS which conforms to the set of "Protocols for remote ITS station management" shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause B.1.

A PICS which conforms to the set of "ITS station-internal management communication protocol (IICP)" [1] shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause C.1.

A PICS which conforms to "Fast Service Advertisement Protocol" (FSAP) [2] shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause D.1.

NOTE 1: PICSs for "protocols for local ITS station management" [i.2] will be added to the present document in a next revision.

NOTE 2: PICSs for "protocols for remote ITS station management" will be added to the present document as soon as ISO has finished the base standard ISO/NP 24102-2 [i.3].

NOTE 3: "ITS station-internal management communications" is an integral functionality of an implementation option of FSAP.

Annex A (normative): PICS proforma for "Protocols for local ITS station management"

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--

A.1 Guidance for completing the PICS proforma

NOTE: This annex is to be provided in a future version of the present document.

Annex B (normative): PICS proforma for "Protocols for remote ITS station management"

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--

B.1 Guidance for completing the PICS proforma

NOTE: This annex is to be provided in a future version of the present document.

Annex C (normative): PICS proforma for the "ITS station-internal management communications protocol"

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--

C.1 Guidance for completing the PICS proforma

C.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 ISO/DIS 24102-4 [1] 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;
- PICS proforma tables.

C.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.
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 ISO/DIS 24102-4 [1], 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).

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.

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 solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.), respectively.

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

EXAMPLE 2: B.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table 6 of annex B.

Prerequisite line

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

A prerequisite line indicates that the whole table is not required to be completed if the predicate is FALSE.

C.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 C.1.2.

However, the tables containing in "user role" clause shall only be completed for user implementations, and the tables containing in "network role" clause shall only be completed for network implementations.

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

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

C.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.

C.2.1 Date of the statement

.....

C.2.2 Implementation Under Test (IUT) identification

IUT name:

.....

.....

IUT version:

.....

C.2.3 System Under Test (SUT) identification

SUT name:

.....
.....

Hardware configuration:

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

Operating system:

.....

C.2.4 Product supplier

Name:

.....

Address:

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

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

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

C.2.5 Client (if different from product supplier)

Name:

.....

Address:

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

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....
.....

C.2.6 PICS contact person

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

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

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

C.3 Identification of the protocol

This PICS proforma applies to the following protocols specified in ISO/DIS 24102-4 [1]: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 4: Station-internal management communications":

- "Station-internal management communication protocol".

C.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No)

NOTE: Answering "No" to this question indicates non-conformance to the ISO/DIS 24102-4 [1] IICP 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.

C.5 Basic functionality

Table C.1: ITS-SCU roles

Item	ITS-SCU role	Reference	Status	Support
1	Stand-alone ITS-S host	7	o.101	
2	Stand-alone ITS-S router	7	o.101	
3	Combined ITS-S host/router	7	o.101	
o.101: It is mandatory to support at least one of these items.				

C.6 Protocol elements

C.6.1 Service access points

Table C.2: Service access points

Item	Supported SAP functionality	Reference	Status	Support
1	MI-SAP	6	m	
2	MN-SAP	6	m	
3	MF-SAP	6	m	
4	MS-SAP	6	o	

C.6.2 PDUs

Table C.3: Inter-ITS-SCU communication PDUs

Item	FSAP PDU	Sending			Receiving		
		Reference	Status	Support	Reference	Status	Support
1	IIC-Request	7, A	m		7, A	m	
2	IIC-Response	7, A	m		7, A	m	

C.6.3 PDU elements

Table C.4: IIC-Request elements

Item	ITS-SCU-Mngmt-Request elements	Reference	Status	Support
1	SourceITS-SCU-ID	7, A	m	
2	DestinationITS-SCU-ID	7, A	m	
3	PDU-Counter	7, A	m	
4	PDU-ID	7, A	m	
5	Data	7, A	m	
6	SeqRq	7, A	m	

Table C.5: IIC-Response elements

Item	ITS-SCU-Mngmt-Response elements	Reference	Status	Support
1	SourceITS-SCU-ID	7, A	m	
2	DestinationITS-SCU-ID	7, A	m	
3	PDU-Counter	7, A	m	
4	PDU-ID	7, A	m	
5	Data	7, A	m	
6	ErrorStatus	7, A	m	
7	SeqRs	7, A	m	

Table C.6: IIC PDU Data identified by PDU-ID

Item	Inter-ITS-SCU communication PDU	Reference	Status	Support
1	ITS-SCUalive	B, A	m	
2	MF-rcmd	B, A	m	
3	MF-rreq	B, A	m	
4	MN-rcmd	B, A	m	
5	MN-rreq	B, A	m	
6	MI-rcmd	B, A	m	
7	MI-rreq	B, A	m	
8	MI-rget	B, A	m	
9	MI-rset	B, A	m	
10	VCI-info	B, A	m	
11	VCI-update	B, A	m	

C.7 Protocol procedures

Table C.7: Protocol procedures

Item	Protocol procedure	Reference	Status	Support
1	Initialization procedures	8.1	m	
2	Transmission procedures	8.2	m	
3	Reception procedures	8.3	m	

Table C.8: Management procedure implementation

Item	Protocol procedure	Reference	Status	Support
1	Testable procedure	9.1	o.801	
2	Non-testable procedure	9.1	o.801	

o.801: It is mandatory to support exactly one of these items.

Table C.9: Management procedures

Prerequisite: C.8/1 -- Management procedures are testable				
Item	Protocol procedure	Reference	Status	Support
1	ITS-SCU-ID assignment	9.2	m	
2	Maintenance of ITS-SCU-ID	9.3	m	
3	Shut-down of ITS-SCU	9.4	m	

Table C.10: Transmission procedures

Item	Protocol procedure	Reference	Status	Support
1	IIC-Request PDU	8.2.1	m	
2	IIC-Response PDU	8.2.2	m	

Table C.11: Reception procedures

Item	Protocol procedure	Reference	Status	Support
1	IIC-Request PDU	8.3.1	m	
2	IIC-Response PDU	8.3.2	m	

Table C.12: Remote SAP access

Item	Remote SAP access procedure	Reference	Status	Support
1	CommandRef management	B.2.5	m	

C.8 Values

Table C.13: Values of SourceITS-SCU-ID

Item	SourceITS-SCU-ID value	Reference	Status	Support
1	0	7	m	
2	1	7	x	
3	2	7	x	
4	3 .. 7 (reserved)	7	x	
5	8 .. 65 534	7	m	
6	65 535	7	x	

Table C.14: Values of DestinationITS-SCU-ID

Item	DestinationITS-SCU-ID value	Reference	Status	Support
1	0	7	m	
2	1	7	m	
3	2	7	m	
4	3 .. 7 (reserved)	7	x	
5	8 .. 65 534	7	m	
6	65 535	7	m	

Table C.15: Values of ErrorStatus

Item	DestinationITS-SCU-ID value	Reference	Status	Support
1	0	7	m	
2	1	7	m	
3	2	7	m	
4	3 .. 254 (reserved)	7	x	
5	255	7	m	

C.9 Security

NOTE: None in the present document.

Annex D (normative): PICS proforma for the "Fast service advertisement protocol"

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--

D.1 Guidance for completing the PICS proforma

D.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 ISO/DIS 24102-5 [2] may provide information about the implementation in a standardized manner.

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

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the protocol;
- global statement of conformance;
- PICS proforma tables.

D.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.
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 ISO/DIS 24102-5 [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).

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.

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 solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.), respectively.

EXAMPLE 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 indicates that the whole table is not required to be completed if the predicate is FALSE.

D.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 D.1.2.

However, the tables containing in "user role" clause shall only be completed for user implementations, and the tables containing in "network role" clause shall only be completed for network implementations.

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

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

D.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.

D.2.1 Date of the statement

.....

D.2.2 Implementation Under Test (IUT) identification

IUT name:

.....

.....

IUT version:

.....

D.2.3 System Under Test (SUT) identification

SUT name:

.....
.....

Hardware configuration:

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

Operating system:

.....

D.2.4 Product supplier

Name:

.....

Address:

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

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

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

D.2.5 Client (if different from product supplier)

Name:

.....

Address:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

D.2.6 PICS contact person

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

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

D.3 Identification of the protocol

This PICS proforma applies to the following protocol specified in ISO/DIS 24102-5 [2]: "Intelligent transport systems - Communications access for land mobiles (CALM) -- ITS station management -- Part 5: Fast service advertisement protocol (FSAP)":

- "Fast Service Advertisement Protocol" (FSAP).

D.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No)

NOTE: Answering "No" to this question indicates non-conformance to the ISO/DIS 24102-5 [2] FSAP 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.

D.5 Basic functionality

Table D.1: FSAP roles

Item	Role	Reference	Status	Support
1	Service provider	6.3	o.101	
2	Service user	6.3	o.101	
o.101: It is mandatory to support at least one of these items.				

Table D.2: Service phases

Item	Supported service phase	Reference	Status	Support
1	Service initialization phase (SIP)	6.4.2	m	

Table D.3: Service initialization modes

Item	Supported service mode	Reference	Status	Support
1	SIP with support of CTX message	6.4.2	o.302	
2	SIP without support of CTX message	6.4.2	o.302	
o.302: It is mandatory to support at least one of these items.				

Table D.4: ITS-SCU roles

Item	ITS-SCU role	Reference	Status	Support
1	Stand-alone ITS-S host	6.2	o.401	
2	Stand-alone ITS-S router	6.2	o.401	
3	Combined ITS-S host/router	6.2	o.401	
o.401: It is mandatory to support at least one of these items.				

Table D.5: Implementation architectures

Item	Supported architecture	Reference	Status	Support
1	Support of ITS station-internal network	6.2	c501	
c501: IF (D.4/1 OR D.4/2) THEN m ELSE o -- ITS-S host and ITS-S router in separate ITS-SCUs.				

D.6 Protocol elements

D.6.1 Processing entities

Table D.6: Processing entities

Item	Supported processing entities	Reference	Status	Support
1	Groupcast registration handler	6.6	m	
2	Groupcast manager	6.6	m	
3	Groupcast scheduler	6.6	c601	
c601: IF D.1/1 THEN m ELSE n/a -- service provider.				

D.6.2 Service access points

Table D.7: Service access points

Item	Supported SAP functionality	Reference	Status	Support
1	MI-SAP	7.1.1	m	
2	MN-SAP	7.1.2	m	
3	MF-SAP	7.1.3	m	

D.6.2A PDUs

Table D.8: FSAP PDUs

Item	FSAP PDU	Sending			Receiving		
		Reference	Status	Support	Reference	Status	Support
1	SAM	7.2.1, 7.2.2, A	c801		7.2.1, 7.2.2, A	c802	
2	CTX	7.2.1, 7.2.3, A	c803		7.2.1, 7.2.3, A	c804	
c801: IF D.1/1 THEN m ELSE n/a -- service provider.							
c802: IF D.1/2 THEN m ELSE n/a -- service user.							
c803: IF D.1/2 AND D.3/1 THEN m ELSE n/a -- service user with support of CTX.							
c804: IF D.1/1 AND D.3/1 THEN m ELSE n/a -- service provider with support of CTX.							

D.6.3 PDU elements

D.6.3.1 Service initialization phase

Table D.9: SAM elements

Item	SAM element	Reference	Status	Support
1	FMT-D	7.2.1, 7.2.2, A	m	
2	serverID	7.2.2, A	m	
3	serviceList	7.2.2, A	o.901	
4	channelList	7.2.2, A	m	
5	ipServList	7.2.2, A	o.901	
o.901: It is mandatory to support at least one of these items.				

Table D.10: nonipService elements in serviceList

Prerequisite: D.9/3 -- serviceList supported				
Item	nonipService element	Reference	Status	Support
1	No. of nonipService elements	7.2.2, A	m	
2	ITS-AID	7.2.2, 7.4, A	m	
3	serviceData	7.2.2, A	m	
4	serverPort	7.2.2, 7.3, A	m	
5	sessionChannel	7.2.2, A	m	

Table D.11: CTX elements

Item	CTX element	Reference	Status	Support
1	FMT-ID	7.2.1, 7.2.3, A	m	
2	clientID	7.2.3, A	m	
3	servContextList	7.2.3, A	o.1101	
4	ipContextList	7.2.3, A	o.1101	
o.1101: It is mandatory to support at least one of these items.				

Table D.12: nonipContext elements in servContextList

Prerequisite: D.11/3 -- servContextList supported				
Item	servContextList element	Reference	Status	Support
1	No. of nonipContext elements	7.2.3, A	m	
2	ITS-AID	7.2.3, 7.4, A	m	
3	contextData	7.2.3, A	m	
4	clientPort	7.2.3, 7.3, A	m	

D.7 Protocol procedures

D.7.1 Service provider

Table D.13: Service provider protocol procedures

Prerequisite: D.1/1 -- Service provider role				
Item	Service provider procedure	Reference	Status	Support
1	Groupcast registration	8.1, 8.2.1, 8.5	c1301	
2	Groupcast update	8.1, 8.2.2, 8.5	c1301	
3	Groupcast deregistration	8.1, 8.2.3, 8.5	c1301	
4	Groupcast communication management	8.1, 8.2.4, 8.5	m	
5	Transmission of SAM	8.2.5	m	
6	Reception of CTX	8.2.6, 8.5	c1302	
c1301: IF "all ITS application objects intended for FSAP are registered by implementation" THEN n/a ELSE m.				
c1302: IF D.3/2 THEN m ELSE n/a -- CTX supported.				

D.7.2 Service user

Table D.14: Service user protocol procedures

Prerequisite: D.1/2 -- Service user role				
Item	Service user procedure	Reference	Status	Support
1	Groupcast registration	8.1, 8.3.1, 8.5	c1401	
2	Groupcast update	8.1, 8.3.2, 8.5	c1401	
3	Groupcast deregistration	8.1, 8.3.3, 8.5	c1401	
4	Reception of SAM	8.3.4, 8.5	m	
5	Transmission of CTX	8.3.4, 8.5	c1402	
c1401: IF "all ITS application objects intended for FSAP are registered by implementation" THEN n/a ELSE m.				
c1402: IF D.3/2 THEN m ELSE n/a -- CTX supported.				

D.7.3 Supported protocols

Table D.15: Inter-ITS-SCU communication protocol

Item	Supported protocol	Reference	Status	Support
1	Inter-ITS-SCU communication	8.5	c1501	
c1501: IF D.5/1 THEN m ELSE n/a -- with ITS station-internal network.				

Table D.16: Inter-ITS-SCU PDUs

Prerequisite: D.5/1 -- with ITS station-internal network				
Item	Inter-ITS-SCU communication PDU	Reference	Status	Support
1	MF-rcmd	8.5	m	
2	MF-rreq	8.5	m	
3	MN-rcmd	8.5	m	
4	MN-rreq	8.5	m	
5	MI-rcmd	8.5	m	
6	MI-rreq	8.5	m	

Table D.17: MF-Commands in MF-rcmd

Item	MF-Commands in MF-rcmd	Reference	Status	Support
1	GCsamctx	8.5, A	c1701	
2	gcSAM	8.5, A	c1702	
3	gcCTX	8.5, A	c1703	
4	GCperiodCmd	8.5, A	c1702	
5	GCcctxCmd	8.5, A	c1705	
6	GCdeleteCmd	8.5, A	c1704	
c1701: IF D.1/2 AND D.5/1 AND D.3/1 THEN m ELSE n/a -- service user, with ITS station-internal network, CTX supported.				
c1702: IF D.1/2 AND D.5/1 AND D.3/2 THEN m ELSE n/a -- service user, with ITS station-internal network, CTX not supported.				
c1703: IF D.1/1 AND D.5/1 AND D.3/1 THEN m ELSE n/a -- service provider, with ITS station-internal network, CTX supported.				
c1704: IF D.1/1 AND D.5/1 THEN m ELSE n/a -- service provider, with ITS station-internal network.				
c1705: IF D.1/2 AND D.5/1 THEN m ELSE n/a -- service user, with ITS station-internal network.				

Table D.18: MF-Requests in MF-rreq

Item	MF-Request in MF-rreq	Reference	Status	Support
1	GCreateServer	8.5, A	c1801	
2	GUpdateServer	8.5, A	c1801	
3	GDeleteServer	8.5, A	c1801	
4	GCreateClient	8.5, A	c1802	
5	GUpdateClient	8.5, A	c1802	
6	GDeRegisterClient	8.5, A	c1802	
7	SAMrxNot	8.5, A	c1802	
8	CTXrxNot	8.5, A	c1801	
c1801: IF D.1/1 AND D.5/1 THEN m ELSE n/a -- service provider, with ITS station-internal network.				
c1802: IF D.1/2 AND D.5/1 THEN m ELSE n/a -- service user, with ITS station-internal network.				

Table D.19: MN-Commands in MN-rcmd

Item	MN-Command in MN-rcmd	Reference	Status	Support
1	FWTset	8.5	c1901	
2	FWTupdate	8.5	c1901	
3	FWTdelete	8.5	c1901	
c1901: IF D.5/1 THEN m ELSE n/a -- service provider, with ITS station-internal network.				

Table D.20: MN-Requests in MN-rreq

Item	MN-Request in MN-rreq	Reference	Status	Support
1	FWTsetNot	8.5	c2001	
2	FWTupdateNot	8.5	c2001	
3	FWTdeleteNot	8.5	c2001	
c2001: IF D.5/1 THEN m ELSE n/a -- service provider, with ITS station-internal network.				

History

Document history		
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