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Intelligent Transport Systems (ITS);
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Conformance test specifications for GeoNetworking ITS-G5;
Part 1: Test requirements and Protocol Implementation Conformance Statement (PICS) pro forma

Reference

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Contents

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Foreword

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

The present document is part 1 of a multi-part deliverable covering Conformance test specifications for Geonetworking ITS-G5 as identified below:

Part 1: "Test requirements and Protocol Implementation Conformance Statement (PICS) pro forma";

Part 2: "Test Suite Structure and Test Purposes (TSS & TP)";

Part 3: "Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT)".

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) pro forma for Conformance test specifications for Geonetworking ITS-G5 as defined in ETSI EN 302 636-4-1 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [i.2].

2 References

2.1 Normative 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 referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://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.

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

[1] ETSI EN 302 636-4-1 (V1.2.1): "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 1: Media-Independent Functionality".

2.2 Informative 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 referenced document (including any amendments) applies.

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

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

[i.2] ISO/IEC 9646-7 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI EN 302 636-4-1 [1], ISO/IEC 9646-1 [i.1] and ISO/IEC 9646-7 [i.2] apply.

3.2 Abbreviations

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

CBF	Contention-Based Forwarding
GAC	Geographically-Scoped Anycast
GBC	Geographically-Scoped Broadcast
GUC	Geo Unicast
ICS	Implementation Conformance Statement
ITS	Intelligent Transportation Systems
ITS-G5	5 GHz wireless communication
IUT	Implementation Under Test
LS	Location Service
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
SHB	Single Hop Broadcast
SUT	System Under Test
TC	Test Case
TSB	Topology Scoped Broadcast

4 Conformance requirement concerning PICS

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

An ICS which conforms to the present document shall be a conforming PICS pro forma completed in accordance with the instructions for completion given in clause A.2.

5 Mnemonics for PICS reference

To avoid an update of all related documents when the PICS document is changed, table 1 introduces mnemonic names and the correspondence with the PICS item number.

Table 1: Mnemonics for PICS reference

Mnemonic	PICS item
PICS_GN_LOCAL_GN_ADDR	A.16/1
PICS_GN_LOCAL_ADDR_CONF_METHOD	A.16/2
PICS_GN_IS_MOBILE	A.16/4
PICS_GN_MINIMUM_UPDATE_FREQUENCY_LPV	A.16/6
PICS_GN_MAX_SDU_SIZE	A.16/8
PICS_GN_MAX_GN_HEADER_SIZE	A.16/9
PICS_GN_LIFETIME_LOC_TE	A.16/10
PICS_GN_SECURITY	A.16/11
PICS_GN_LOCATION_SERVICE_MAX_RETRANS	A.16/13
PICS_GN_LOCATION_SERVICE_RETRANSMIT_TIMER	A.16/14
PICS_GN_LOCATION_SERVICE_PACKET_BUFFER_SIZE	A.16/15
PICS_GN_BEACON_SERVICE_RETRANSMIT_TIMER	A.16/16
PICS_GN_BEACON_SERVICE_MAX_JITTER	A.16/17
PICS_GN_DEFAULT_HOP_LIMIT	A.16/18
PICS_GN_MAX_PACKET_LIFETIME	A.16/20
PICS_GN_MAX_GEO_AREA_SIZE	A.16/24
PICS_GN_MIN_PACKET_REPETITION_INTERVAL	A.16/25
PICS_GN_NON_AREA_FORWARDING_ALGORITHM	A.16/26
PICS_GN_AREA_FORWARDING_ALGORITHM	A.16/27
PICS_GN_CBF_MIN_TIME	A.16/28
PICS_GN_CBF_MAX_TIME	A.16/29
PICS_GN_DEFAULT_MAX_COMMUNICATION_RANGE	A.16/30
PICS_GN_UC_FORWARDING_PACKET_BUFFER_SIZE	A.16/32
PICS_GN_BC_FORWARDING_PACKET_BUFFER_SIZE	A.16/33
PICS_GN_BEACON_SRC	A.8/1
PICS_GN_BEACON_DST	A.8/2
PICS_GUC	A.7/7
PICS_GN_GUC_SRC	A.11/1
PICS_GN_GUC_DST	A.11/3
PICS_GN_GUC_FWD	A.11/2
PICS_GBC	A.7/10
PICS_GN_GBC_SRC	A.14/1
PICS_GN_GBC_DST	A.14/2
PICS_GN_GBC_FWD	A.14/2
PICS_GAC	A.7/11
PICS_GN_GAC_SRC	A.15/1
PICS_GN_GAC_DST	A.15/2
PICS_GN_GAC_FWD	A.15/2
PICS_SHB	A.7/9
PICS_GN_SHB_SRC	A.13/1
PICS_GN_SHB_DST	A.13/2
PICS_TSB	A.7/8
PICS_GN_TSB_SRC	A.12/1
PICS_GN_TSB_DST	A.12/2
PICS_GN_TSB_FWD	A.12/2
PICS_GN_LS_REQ_SRC	A.10/1
PICS_GN_LS_REQ_RETRANSMISSION	A.10/2
PICS_GN_LS_REQ_DST	A.9/3
PICS_GN_LS_REP_DST	A.10/3
PICS_GN_LS_FWD	A.9/2
PICS_GN_ADDR_AUTO	A.4/1
PICS_GN_ADDR_MANAGED	A.4/2
PICS_GN_ADDR_ANONYMOUS	A.4/3
PICS_GN_DAD	A.4/4

Annex A (normative): GEONETW PICS pro forma (Media independent)

A.1 Partial cancellation of copyright

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

A.2 Guidance for completing the ICS pro forma

A.2.1 Purposes and structure

The purpose of this PICS pro forma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ETSI EN 302 636-4-1 [1] may provide information about the implementation in a standardized manner.

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

- guidance for completing the ICS pro forma;
- identification of the implementation;
- identification of the ETSI EN 302 636-4-1 [1];
- global statement of conformance;
- PICS pro forma tables.

A.2.2 Abbreviations and conventions

The ICS pro forma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [i.2].

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 [i.2], 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.

c.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 an unique conditional status expression which is defined immediately following the table.

i irrelevant (out-of-scope) - capability outside the scope of the reference specification. No answer is requested from the supplier.

NOTE 1: This use of "i" status is not to be confused with the suffix "i" to the "o" and "c" statuses above.

Reference column

The reference column makes reference to ETSI EN 302 636-4-1 [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 [i.2], 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 2: As stated in ISO/IEC 9646-7 [i.2], 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)