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Foreword

This ETSI Guide (EG) has been produced by ETSI Technical Committee Intelligent Transport System (ITS), and is now submitted for the ETSI standards Membership Approval Procedure.

The present document assumes that the reader has basic knowledge in testing as presented e.g. in [i.4], [i.7].

Introduction

"Intelligent Transport Systems" (ITS) are systems to support transportation of goods and humans with information and communication technologies in order to efficiently and safely use the transport infrastructure and transport means (cars, trains, planes, ships). With a focus on road transportation, elements of ITS for global applications are standardized in various standardisation organisations, both on an international level at e.g. ISO TC204, and on regional levels, e.g. in Europe at ETSI TC ITS and at CEN TC278 [i.13], [i.22].

The importance of ITS for the regional and the international market is expressed by the large number of activities of stake-holders, within regional research projects, industry initiatives and regional and international standardisation.

In Europe, the urgent need for ITS standards and the related test standards is expressed by the new mandate M/453 of the Commission of the European Union [i.36].

Mandate M/453 [i.36] also is given in the context of international harmonisation, as expressed by the EU-US joint declaration of intent on research cooperation in cooperative systems [i.35].

ETSI is prepared to take over a leading role in this process towards harmonized ITS. A major effort is on conformance and interoperability testing, which is being prepared by the present document on "ITS testing framework". The protocol conformance and interoperability testing framework is essential for a systematic and consistent approach towards testing of globally applicable ITS communications equipment.

1 Scope

The scope of the present document is to support ITS projects on the development of test specifications for ITS base standards from ETSI, ISO, CEN and other "Standard Developing Organisations" (SDOs) by providing:

- An ITS testing framework for conformance testing.
- An ITS testing framework for interoperability testing.

The testing framework proposed in the present document provides guidance for development of conformance and interoperability test strategies, test systems and the resulting test specifications for ITS.

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.

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2.1 Normative references

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

Not applicable.

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 ETR 266: "Methods for Testing and Specification (MTS); Test Purpose style guide".

[i.2] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[i.3] ETSI EG 201 058: "Methods for Testing and Specification (MTS); Implementation Conformance Statement (ICS) proforma style guide".

[i.4] ETSI ES 201 873 (all parts): "Methods for Testing and Specification (MTS); The Testing and Test Control Notation version 3".

[i.5] ETSI EG 202 237: "Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); Generic approach to interoperability testing".

[i.6] ETSI EG 202 810: "Methods for Testing and Specification (MTS); Automated Interoperability Testing; Methodology and Framework".

[i.7] ISO/IEC 9646 (all parts): " Information technology - Open Systems Interconnection - Conformance testing methodology and framework".

[i.8] ISO 10746 (all parts): "Information technology - Open Distributed Processing - Reference model".

[i.9] ISO 21210: "Intelligent transport systems - Communications Access for land Mobiles (CALM) - Non-IP networking".