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Intelligent Transport Systems (ITS); Facilities layer function; Part 1: Services Announcement (SA) specification

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Intelligent Transport Systems (ITS).

The present document is part 1 of a multi-part deliverable covering Intelligent Transport Systems; Facilities layer function, as identified below:

Part 1: "Services Announcement (SA) specification";

Part 2: "Position and time facility specification".

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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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Introduction

Some of the applications of the Basic Set of Applications (see ETSI TR 102 638 [i.1]) require ITS stations (Service Users) to have knowledge of a certain service of interest that is provided by other ITS stations (Service Providers) via defined communication access technologies.

The C-ITS protocol stack supports push and pull mechanisms in order to allow an ITS station to identify the availability of ITS services. The push mechanism is named "ITS service announcement" which is also known as "ITS service advertisement" (see ETSI EN 302 665 [i.2]). Throughout the present document this service is referred to as service announcement service (SA service).

The ITS SA service is a functionality agnostic to the medium and the announced service that can be used by specific services to provide the push functionality mentioned above. In this sense, each specification of an ITS service will tailor the ITS service announcement to its needs. This means that ITS service definitions (e.g. in other standards or technical specifications) should make use of the provisions of the present document to define its service-specific use of ITS service announcement, i.e. to profile the ITS service announcement appropriately (for example the use of service announcement in a Platooning service). The present document defines therefore a general framework which needs to be followed whenever a specific service is specified. Compliance should be tested according to this service specification that defines the application-specific requirements for the service announcement.

1 Scope

The present document provides the specification of the Services Announcement (SA) service, including its protocol functions, based on ISO/TS 16460 [1].

The definition of the interface between Service Provider and Service Announcer ITS stations (ITS-S) as well as of the communication steps following the service announcement protocol procedure and related protocol details between Service Announcer and Service User ITS-S are application-specific and are not covered by the present document.

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.

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

- [1] ISO/TS 16460:2016: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- Communication protocol messages for global usage".
- [2] ETSI TS 102 894-2: "Intelligent Transport Systems (ITS); Users and applications requirements; Part 2: Applications and facilities layer common data dictionary".
- [3] ETSI EN 302 636-4-1: "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".
- [4] ETSI TS 103 097: "Intelligent Transport Systems (ITS); Security; Security header and certificate formats".
- [5] ETSI EN 302 931: "Intelligent Transport Systems (ITS); Vehicular Communications; Geographical Area Definition".
- [6] Recommendation ITU-T X.691/ISO/IEC 8825-2 (2015): "Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".
- [7] ETSI TS 102 965: "Intelligent Transport Systems (ITS); Application Object Identifier (ITS-AID); Registration".
- [8] ETSI TS 103 248: "Intelligent Transport Systems (ITS); GeoNetworking; Port Numbers for the Basic Transport Protocol (BTP)".
- [9] IEEE 1609.3™ - 2016: "IEEE Standard for Wireless Access in Vehicular Environments (WAVE) - Networking Services".
- [10] ISO/TS 17423:2018: "Intelligent transport systems -- Cooperative systems -- Application requirements and objectives".
- [11] ETSI EN 302 636-5-1: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 5: Transport Protocols; Sub-part 1: Basic Transport Protocol".

2.2 Informative references

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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 TR 102 638: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Definitions".
- [i.2] ETSI EN 302 665 (V1.1.1): "Intelligent Transport Systems (ITS); Communications Architecture".
- [i.3] ETSI TS 102 723-11: "Intelligent Transport Systems (ITS); OSI cross-layer topics; Part 11: Interface between networking and transport layer and facilities layer".
- [i.4] ETSI TS 102 723-5 (V1.1.1): "Intelligent Transport Systems (ITS); OSI cross-layer topics; Part 5: Interface between management entity and facilities layer".
- [i.5] ETSI TS 103 301: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Facilities layer protocols and communication requirements for infrastructure services".

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