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Part 3: Object identifier assignments for ITS data concepts

Systèmes intelligents de transport — Dictionnaires de données des ITS —

Partie 3: Affectation didentifiants d'objets pour les concepts liés aux données des ITS

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www. iso. org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso. org/iso/foreword. html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

A list of all parts in the ISO 14817 series can be found on the ISO website.

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Introduction

Background

This document has been developed by ISO/TC 204 in order to provide a framework for the documentation and registration of data that passes through system interfaces within the Intelligent Transport Systems (ITS) domain. It is designed to maximize interoperability and facilitate information re-use across system interfaces.

Vision statement

This International Standard envisions a harmonized approach to ITS data and interfaces to promote maximum interoperability of data within the ITS sector by the creation and maintenance of the Central ITS Data Concept Registry (CIDCR), which are supported by interface and application-specific ITS data dictionaries, created and maintained in a common and interoperable form, and to ensure the minimization of duplication by clear rules for data concept definition and data concept registry management.

Mission statement

The mission is to develop tools that will promote a holistic, integrated approach involving vehicle technology, infrastructure, and the road user to increase transport safety and efficiency. Specifically, this standard defines the principles and concepts, scope, field of application, rules and procedures, and definition and concept of operation for the CIDCR and ITS functional data dictionaries. Furthermore, this standard also makes provision for the migration of data concepts from ITS functional data dictionaries to the CIDCR to maximize interoperability and minimize proliferation of similar (but inconsistently defined) data concept entries.

This International Standard defines the framework, formats, and procedures used to define information and information exchanges within the ITS sector. The standard is designed to be used by the ITS community at large, but should be of special interest to application developers, equipment providers, and data concept registry managers.

ISO 14817-1 specifies a set of meta-attributes for ITS data concepts, as well as associated conventions and schemes that enable the description, standardization and management of all exchanged ITS data. Through consistent use of these common structures and associated conventions and schemes, interchange of data and information among the various ITS functional subsystems via their specific application systems can be maximized. This International Standard also supports re-use of data elements and other data concepts across various ITS functional subsystems and their specific application systems.

The formats and processes defined within this International Standard are consistent with implementation(s) of the ISO ITS System Architecture defined in the ISO 14813 Standardization deliverables, particularly ISO 14813-2 and ISO 14813-2. This does not preclude the application of data concept registries using alternative international, regional or national system architecture methodologies or techniques, indeed, common formats and processes will ease migration and interoperability between such approaches.

The ITS data concepts that populate the CIDCR or data dictionary may originate from a Computer-Aided Software Engineering (CASE) tool implementation of the ISO 14813 ITS Reference Architecture, from International Standards for ITS, from national implementations for ITS, or from the submission by relevant users. Data dictionary entries are not limited to those generated by object-oriented methodologies.

Document overview

This clause provides an overview of this document. Clause 1 identifies the scope of this document. Clause 2 specifies the conformance tests that a data concept must pass to be assigned an arc under the "common-data" arc. Clause 3 identifies references required for proper implementation of this document. Clause 4 defines terms used and Clause 5 lists the abbreviations. Clause 6 declares the structure of

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the centralized ITS naming tree and Clause 7 identifies management structure for adding new arcs underneath the centralized ITS naming tree.

Annex A contains the formal ASN.1 module defining all arcs defined in this document.

Annex B is informational and provides answers to frequently asked questions.

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Intelligent transport systems — ITS data dictionaries —

Part 3:
Object identifier assignments for ITS data concepts

1 Scope

This document specifies how to assign an object identifier to a data concept under the "its" arc of the international object identifier tree.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3166-1, *Codes for the representation of names of countries and their subdivision — Part 1: Country codes*

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1) — Specification of basic notation*

ISO/IEC 9834-1, *Information technology — Procedures for the operation of object identifier registration authorities: General procedures and top arcs of the international object identifier tree — Part 1*

ISO 14813-1, *Intelligent transport systems — Reference model architecture(s) for the ITS sector — Part 1: ITS service domains, service groups and services*

ISO 14817-1, *Intelligent transport systems — ITS central data dictionaries — Part 1: Requirements for ITS data definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14817-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Conformance

4.1 General

Prior to standardizing an arc assignment to any data concept under the joint "its" arc, the developer of the data concept shall enter the data concept into the CIDCR so that it reaches the quality level of "recorded" or higher. In addition, it is recommended that the following conditions be met:

NOTE ISO 14817-2 defines the "recorded" level as "Indicates that the data concept has syntactically valid entries for all mandatory meta-attributes and passes all defined automated checks for the data concept type".

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