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Navigation data delivery structures and protocols

Structures et protocoles pour la diffusion de données dans les systèmes de navigation

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 24099 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

Introduction

This International Standard was developed in relation to growing market demand for dynamic update services for map-related data in navigation systems. Map-related data includes not only feature geometry and attributes but also point of interest (POI) data such as hotels, restaurants, and dynamic content such as traffic, weather, movie schedules, parking availability, etc. Currently, most map data updates are provided on physical media whose map data content begins aging rapidly once it is delivered to the user. In the future, it is anticipated that the transmission of these data will most often, but not exclusively, be via wireless means. The advantage of wireless data delivery is that it simplifies the distribution logistics thereby accelerating the ability of a consumer to receive fresher data. This International Standard facilitates the potential for on-demand updates of on-board map databases. Further, the updates do not necessarily require the replacement of an entire map database. Rather, the updates can be limited to a portion of a dataset or a specific list of attributes or POI changes can also be provided.

The services described above have begun to be deployed in a non-interoperable manner by various car manufacturers and information system providers. This International Standard is intended to promote the successful widespread adoption of such services through user access to an interoperable network of servers offering more content choices than is available through a single provider.

This International Standard defines the data structures and protocol needed to enable interoperability between multiple content providers and consumers of map-related data content in a wireless environment. As far as possible the data structures are compatible with the ISO geographic data file (GDF) data model. Different software profiles can be developed to support various system configurations: systems which store all data in the vehicle (on-board), systems which store all data in a central server (off-board), and systems which use both on-board and off-board data storage (hybrid).

Furthermore, this International Standard is designed to utilize the communications protocols such as those under development in TC 204/WG 16. This International Standard recognizes the possible need for security mechanisms in the provision of this data.

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