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Intelligent transport systems — Vehicle interface for provisioning and support of ITS Services —

Part 3: Unified vehicle interface protocol (UVIP) server and client API specification

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Systèmes intelligents de transport — Interface véhicule pour la fourniture et le support de services ITS —
Partie 3: Serveur du protocole unifié pour l'interface véhicule (UVIP) et spécification de l'API client

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Introduction

This document has been established to define the UGP client and server Java API of a common software interface to a vehicle UGP server to easily exchange vehicle information data amongst nomadic and/or mobile devices, cloud servers, vehicle servers and the vehicle's Electronic Control Units (ECUs).

Applications supporting service provision use via nomadic and mobile devices need vehicle information data through an in-vehicle interface access method as well as the harmonization of existing standards to support a single vehicle data access solution.

A Nomadic Device (ND) becomes a Personal ITS station (P-ITS-S) if a Hardware Security Module (HSM) and software, that prohibits unauthorized access to an ITS-secured domain inside the ND, has been implemented.

This document defines the UGP client and server Java API protocol between the P-ITS-S and the UGP server in the vehicle.

The protocol specified in this document is based on the Open Systems Interconnection (OSI) Basic Reference Model specified in ISO/IEC 7498-1 and ISO/IEC 10731, which structures communication systems into seven layers.

This document may be used by vehicle manufacturers to implement an interoperable UGP server in on-board communications modules that are allowed to interface with P-ITS-S(s). Through this interface, P-ITS-S(s) can access in-vehicle information provided to the UGP server. The means by which the UGP server obtains the in-vehicle information is outside the scope of this document.

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The P-ITS-S applications need vehicle information data through an in-vehicle interface access method.

This document supports ITS applications based on a client-server model which allows clients on P-ITS-S to obtain data from ECUs in the in-vehicle networks (IVNs) through a common interface to a server located in a Vehicular ITS station (V-ITS-S) which in turn is acting as a gateway to the IVNs. The protocol implementation in the vehicle's UGP server may include the following features:

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— the denial of access to the vehicle's UGP server data by unauthorized on-board and off-board test equipment;

— the denial of access to parts of the vehicle's UGP server data by unauthorized on-board and off-board test equipment (privacy);

— the identification of the vehicle's UGP server and the vehicle it is installed in;

— the list of in-vehicle connected ECUs to the vehicle's UGP server and their data parameters;

— methods to configure the access to vehicle data.

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