SLOVENSKI STANDARD
oSIST prEN IEC 63479-3:2025

01-marec-2025

Informacijska storitev za javna vozila (PVIS) - 3. del: Okvir

Infotainment services for public vehicles (PVIS) - Part 3: Framework

Ta slovenski standard je istoveten z: **prEN IEC 63479-3:2025**

ICS:

43.040.15	Avtomobilska informatika. Vgrajeni računalniški sistemi	Car informatics. On board computer systems

oSIST prEN IEC 63479-3:2025 **en,fr,de**

100/4262/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 63479-3 ED1**	
DATE OF CIRCULATION: **2025-01-31**	CLOSING DATE FOR VOTING: **2025-04-25**
SUPERSEDES DOCUMENTS: **100/4167/CD, 100/4220/CC**	

IEC TA 17 : MULTIMEDIA SYSTEMS AND EQUIPMENT FOR VEHICLES	
SECRETARIAT: Korea, Republic of	SECRETARY: Mr Ockwoo Nam
OF INTEREST TO THE FOLLOWING COMMITTEES:	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED:	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

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TITLE:

Infotainment Services for Public Vehicles (PVIS) - Part 3: Framework

PROPOSED STABILITY DATE: 2030

NOTE FROM TC/SC OFFICERS:

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INFOTAINMENT SERVICES FOR PUBLIC VEHICLES (PVIS)

Part 3: Framework

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IEC 63479-3 has been prepared by the technical area 17: multimedia systems and equipment for vehicles, of IEC technical committee 100: audio, video and multimedia systems and equipment. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

It is noted that the markets and industries on infotainment services for vehicles (as known as in-vehicle infotainment services) have been growing rapidly. It is envisioned that a variety of infotainment (or multimedia) devices and services will be newly developed for personal and public vehicles in the future. Such devices include navigations, cameras, speakers, headrest displays, air-conditioners, thermometers and heated seats, and lights.

The IEC TC100 have so far developed a set of standards on Configurable Car infotainment Services (CCIS) with the IEC 63246 series. However, the CCIS standards have been basically designed for personal users, such as car owner. In the meantime, there is also a crucial need to provide a variety of infotainment services for public vehicles (PVIS) such as bus or train.

PVIS services have different requirements and features from CCIS services. For user type, CCIS is targeted for one or two users (such as car owner), whereas PVIS is for a large number of guests or passengers within the public vehicle. For device type, CCIS deals with the personal devices (property or belonging) in the car, whereas PVIS will be targeted for a variety of public devices that are contained in a public vehicle. Some PVIS services may be provisioned by interworking with the external networks, as shown in the bus information service. For service duration, CCIS usually provide long-term services, whereas PVIS may provide short-term service during which a guest stays within a public vehicle.

From these observations, it is noted that there are many different features and requirements between CCIS and PVIS. Accordingly, there is a need of standardization on PVIS. In particular, PVIS needs to employ a set of agents to effectively manage a large number of users or devices.

The PVIS series (IEC 63479) describe infotainment (multimedia) services for terrestrial public vehicles, such as bus, train, or subway. It is not applicable to public vehicles, such as airplane or ship. For this purpose, the following issues are addressed: 1) identify a variety of functional requirements for provisioning of PVIS, 2) design the PVIS framework, based on the identified requirements. The PVIS standard are expected to provide guidelines on PVIS services for a large number of users/devices, and to encourage development of new (enhanced) PVIS services (possibly by interworking with the external systems).

The IEC 63479 consists of the following parts:

– Part 1: general,
– Part 2: requirements, and
– Part 3: framework.

Part 1 of IEC 63479 (Technical Report) describes general considerations and system model for PVIS, with some examples of PVIS services.

Part 2 of IEC 63479 (International Standard) describes the functional requirements for PVIS.

Part 3 of IEC 63479 (International Standard) describes the framework, including the functional information flows between functional entities.

INFOTAINMENT SERVICES FOR PUBLIC VEHICLES (PVIS)

Part 3: Framework

1 Scope

This part of IEC 63479 describes the PVIS framework, including the functional reference models and the information flows for functional operations.

2 Normative references

The following document is 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.

- IEC 63479-2, Infotainment Services for Public Vehicles (PVIS) – Part 2: Requirements (202X)

3 Terms and definitions

No terms and definitions are listed in this document.

4 Overview

PVIS consists of a diverse ecosystem of entities, each contributing to the system's operation and functionality. These entities can be categorized into two main groups:

- PVIS support entities: these entities are responsible for supporting the core functions required by the PVIS. They include the PVIS master, PVIS agent, and PVIS devices. The PVIS master serves as the central command, controlling and coordinating activities within the system. The PVIS agent facilitates the connection between the master and the devices, while the PVIS devices deliver the actual infotainment content to the passengers.
- PVIS user entities: these entities engage with the PVIS system on a more transient basis. They include passenger devices, content providers, and external applications. Passenger devices enable users to interact with the system, content providers supply the infotainment materials, and external applications offer additional functionalities to enhance the overall user experience.

The PVIS framework defines the functions that the PVIS master, agent, and devices need to support in order to manage infotainment services effectively and deliver them to passengers seamlessly.

Figure 1 illustrates how each entity has a specific set of PVIS functions to ensure the smooth operation of PVIS. It is noted in the figure that the PVIS master should be able to perform the functions of the PVIS agent, and the PVIS agent includes the functions of the PVIS device.

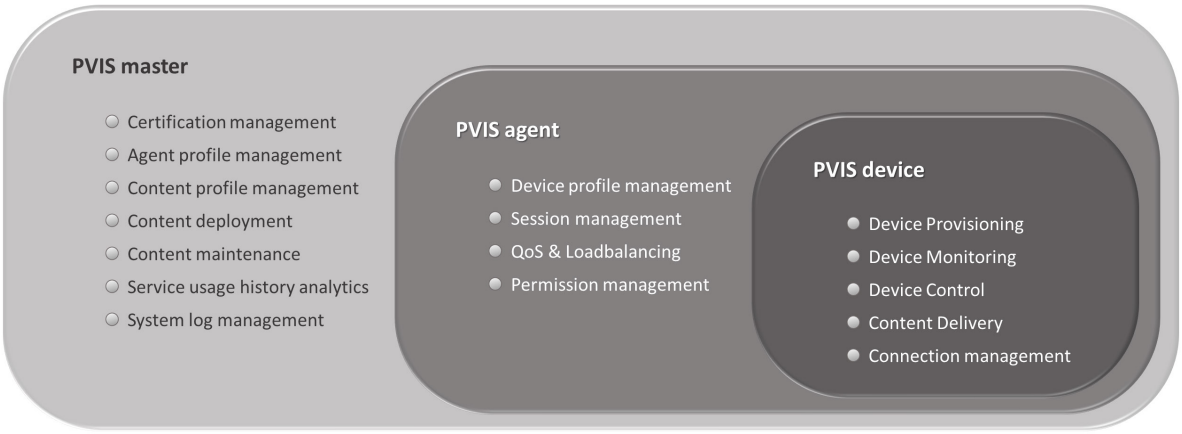

Figure 1 – PVIS entities and functions

Figure 2 presents a reference architecture of PVIS system, which includes the six core functions and the three interworking functions. The core functions are specifically designed to meet the functional requirements of each entity, while the interworking functions enable smooth interaction between these entities. The details of these functions are described in the subsequent clauses.

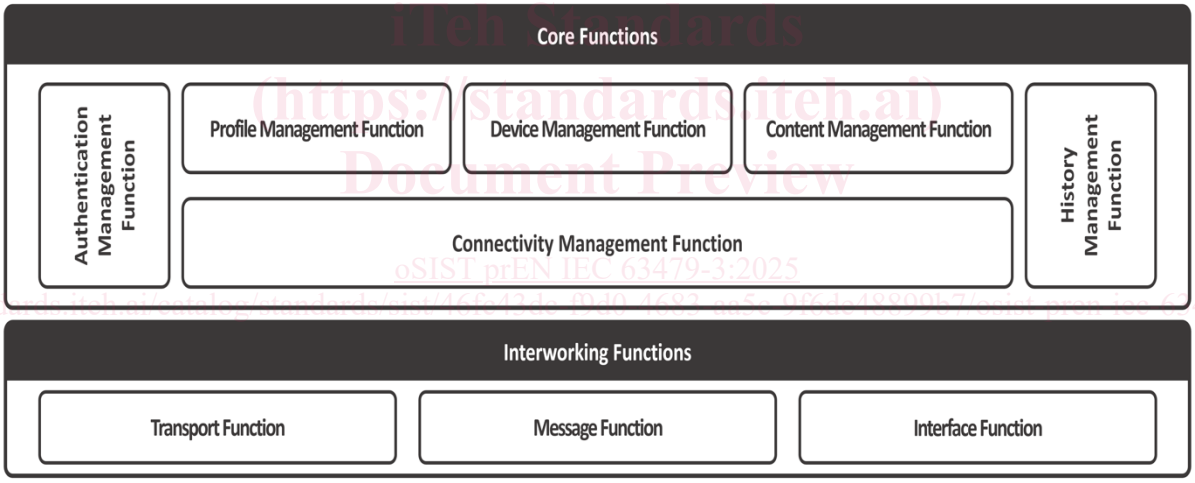

Figure 2 – Overview of reference function model

5 Reference model for core functions

5.1 General

The PVIS reference model for core functions comprises several functional modules that facilitate efficient management and utilization of infotainment services. As illustrated in Figure 3, PVIS encompasses the following modules: authentication management, profile management, device management, content management, connectivity management, and history management.

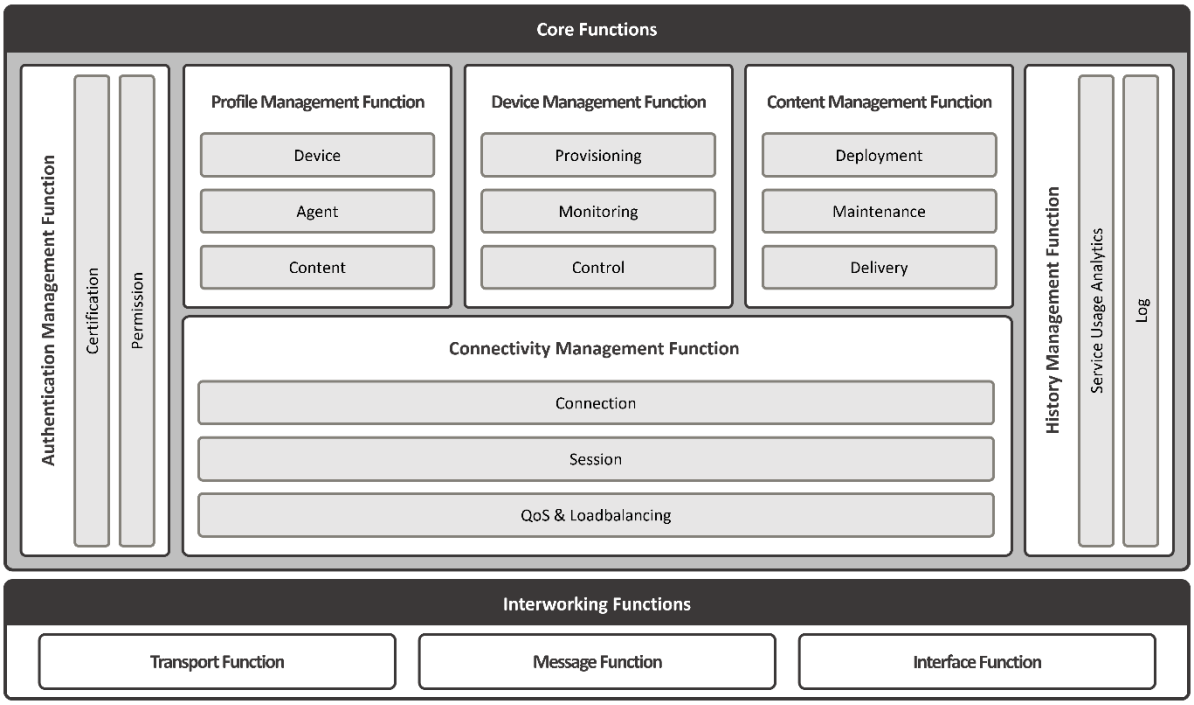

Figure 3 – PVIS reference model for core functions

5.2 Authentication management function

The authentication management function within PVIS is responsible for delivering customized services to authenticated users by leveraging their registered information. This function consists of two crucial subfunctions: certification and permission.

The certification subfunction ensures the identification of each entity within the system and generates access tokens that grant specific privileges for a limited duration. These access tokens must be included in all exchanged messages by the entity, enabling secure and authorized communication.

The permission subfunction is responsible for validating exchanged messages and governing the permissions associated with devices and content. Different entities within the PVIS service may have varying levels of permission to operate devices and access content. The validation process relies on the access tokens issued by the certification module, ensuring that only authorized entities can perform permitted actions.

5.3 Connectivity management function

In PVIS, the connectivity information associated with the various PVIS entities plays a crucial role in delivering efficient and secure services. This connectivity information is represented by connection and session data.

Within a PVIS system, all functional entities, except for PVIS master, are required to register either with the PVIS master or the PVIS agent. During this registration process, a session token is assigned to each entity. This session token is then included in all subsequent communications, enabling the PVIS to maintain session context and track entity activities. For instance, a session for a PVIS device includes details about the device's current state and occupant. Similarly, a session related to a passenger's device encapsulates information such as the specific PVIS device being used and the content currently being accessed. This session information forms the foundation for maintaining effective and personalized interactions within the PVIS. Furthermore, it facilitates the verification of entity permissions, ensuring secure and authorized interactions within the system.