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SERIES F: NON-TELEPHONE TELECOMMUNICATION  
SERVICES

Multimedia services

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## Service requirements for vehicle gateway platforms

Recommendation ITU-T F.749.2

ITU-T

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# Recommendation ITU-T F.749.2

## Service requirements for vehicle gateway platforms

### Summary

Recommendation ITU-T F.749.2 describes the service requirements and functional requirements for the vehicle gateway platform (VGP). The use cases and scenarios are described in Appendix I.

### History

| Edition | Recommendation | Approval   | Study Group | Unique ID*                                                                   |
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### Keywords

Intelligent transport system, ITS, service requirements, telematics, use cases, vehicle gateway platform, VGP.

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# Recommendation ITU-T F.749.2

## Service requirements for vehicle gateway platforms

### 1 Scope

This Recommendation specifies functional requirements for the vehicle gateway platform (VGP), including description, communication requirements and service requirements. Some use cases are included in Appendix I.

### 2 References

None.

### 3 Definitions

#### 3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

**3.1.1 functional entity** [b-ITU-T Y.2012]: An entity that comprises an indivisible set of specific functions. Functional entities are logical concepts, while groupings of functional entities are used to describe practical, physical implementations.

**3.1.2 intelligent transport systems (ITS)** [b-ITU-R M.1797]: ITS can be defined as systems utilizing the combination of computers, communications, positioning and automation technologies to improve the safety, management and efficiency of terrestrial transport systems.

**3.1.3 nomadic devices** [b-ITU-T F.749.1]: Nomadic devices include all types of information and communication as well as entertainment devices that can be brought into the vehicle by the driver and/or passengers to be used while driving. Examples include mobile phones, portable computers, tablets, mobile navigation devices, portable media players and multi-functional smart phones.

**3.1.4 telematics** [b-ISO 15638-1]: Telematics is the use of wireless media to obtain and transmit (data) from a distant source.

**3.1.5 vehicle gateway (VG)** [b-ITU-T F.749.1]: A VG is a device in a vehicle that enables communications between a device in the vehicle and another device which may be physically located either inside the vehicle or outside the vehicle (e.g., roadside station, cloud-based server, etc.). A VG provides standardized interfaces and protocols, communications across heterogeneous networks, optimized network selection based on application needs and network QoS, arbitration and integration of network communications, security and switching network connections to maintain service continuity.

**3.1.6 vehicle gateway platform (VGP)** [b-ITU-T F.749.1]: A VGP is the collection of ICT hardware and software in a vehicle operating as an open platform to provide an integrated runtime environment for delivering the communications services of a VG. A VGP may also provide higher layer communications services such as interaction with the driver through the driver-vehicle access services and so on. Subsystems dedicated solely to vehicle operation are not considered part of the VGP. Supported applications/services include ITS and infotainment.

#### 3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

**3.2.1 driver-vehicle interface (DVI)**: The integrated user interface for the vehicle. It includes visual displays, loudspeakers, microphones, manual input controls, etc.

**3.2.2 remote user interface:** An approach to realize the interaction between applications in nomadic devices and the driver-vehicle interface (DVI). The UI of applications in nomadic devices can be displayed in the vehicle's touch screen, and drivers are able to control the applications through the DVIs (touch screen, buttons, etc.). A remote UI can help drivers avoid distraction from applications and thus reduce the probability of accidents.

## 4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

|        |                                                  |
|--------|--------------------------------------------------|
| 2G     | Second generation of cellular phone technologies |
| 3G     | Third generation of cellular phone technologies  |
| 4G     | Fourth generation of cellular phone technologies |
| API    | Application Programming Interface                |
| ASR    | Automatic Speech Recognition                     |
| DSRC   | Dedicated Short Range Communication              |
| DVI    | Driver-Vehicle Interface                         |
| ECU    | Electronic Control Unit                          |
| ETC    | Electronic Toll Collection                       |
| FM-RDS | Frequency Modulation-Radio Data System           |
| GNSS   | Global Navigation Satellite System               |
| INS    | Inertial Navigation System                       |
| ITS    | Intelligent Transport System                     |
| MAN    | Metropolitan Area Network                        |
| NAT    | Network Address Translation                      |
| NFC    | Near-Field Communication                         |
| OSI    | Open Systems Interconnection                     |
| POI    | Point of Interest                                |
| PSAP   | Public Service Answering Point                   |
| QoS    | Quality of Service                               |
| RSU    | Roadside Unit                                    |
| TSP    | Telematics Service Provider                      |
| TTS    | Text to Speech                                   |
| UI     | User Interface                                   |
| USB    | Universal Serial Bus                             |
| VG     | Vehicle Gateway                                  |
| VGP    | Vehicle Gateway Platform                         |
| VIN    | Vehicle Identification Number                    |
| WLAN   | Wireless Local Area Network                      |
| WWAN   | Wireless Wide Area Network                       |

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