

TELECOMMUNICATION
STANDARDIZATION SECTOR

TD 535 R1 (PLEN/16)

STUDY PERIOD 2005-2008

English only

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Question(s): All/16

Geneva, 22 April - 2 May 2008

TEMPORARY DOCUMENT

Source: Ad hoc on new question of Vehicle Gateway Platform**Title:** ToR and roadmap of vehicle gateway platform study

This TD contains the results of the ad hoc session on a proposed new question 'Vehicle Gateway Platform' held 13:00 ~ 14:30 of 29 May 2008 during the SG16 meeting. The ad hoc session was agreed by the joint working parties meeting on new questions and was requested to develop a consolidated document containing the 'Terms of reference' and a 'Draft Roadmap' for the development of vehicle gateway related standards in SG16.

Proposed agenda for the session was provided by the chairman and agreed at the meeting as shown in Attachment 3 of this TD.

- 1) Terminology of 'Telematics' and 'ITS': Taking into consideration the existing definition of 'Telematics' in ITU-T which is used for information services like FAX and also the current active study in ITU-R WP5A (referring ITU-R Recommendation M.1310), the meeting agreed to use the terminology of 'ITS: Intelligent Transport Systems' rather than 'Telematics' to avoid any conflicts and confusion.
- 2) Terms of Reference: Several modifications to the text contained in contribution C-333 and additions to section 4 'Relationship' were agreed to during the meeting. The agreed text is contained in 'Attachment 1' of this TD.
- 3) Draft Roadmap: A proposed roadmap prepared by the chairman was discussed and the meeting proposed small modifications. The agreed draft roadmap is in Attachment 2 of this TD.
- 4) Collaborating Standard Bodies: Based on the contribution C-333, additional relevant SGs and SDOs were identified and updates are included into the ToR document.
- 5) Further steps: The meeting agreed to the need for urgent approval of the new Question and to request the necessary action from the Director TSB and SG16 (W TSA-2004 Res. 1, paragraph 7.1.8). In addition, the meeting agreed to launch 'Ad hoc Group' immediately after take decision of SG16 to develop the framework document shown in the roadmap. After taking consultation from experts, it is proposed that chairman will ask SG16 to assign Ms So Yeon Lee (ETRI; Korea Rep. of) as a chairman of this ad hoc group. The meeting supported the working method of a Ad hoc Group using an e-mail reflector and a face to face meeting in the course of Questions' meetings of SG16 in September 2008.
- 6) Liaison statement: The meeting agreed inform the relevant study groups and SDOs of this initiative as soon as possible and asked the ad hoc group convenor to prepare a liaison for approval at the SG16 closing plenary.

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The ToR and draft roadmap as developed during the session are attached to this document. Convenor closed the session with his thanks to all the participants and their inputs.

Attachment 1: Proposed new question to SG16

Attachment 2: Draft Roadmap

Attachment 3: Proposed Agenda

Attachment 1

Proposed new question to SG16

The following was agreed at the ad hoc session and describes a new question that should be initiated in SG16 as soon as possible.

(New Question)

1. Motivation

Vehicle information obtained from electronic devices as part of an in-vehicle network are critical to telecommunication/ITS (Intelligent Transportation Systems) services/applications and related industries (insurance, fleet, etc.), including emergency telecommunications. In such vehicle-centric services, a wide range of applications can be proposed, and it is believed that vehicle information has an important role in the value chain of telecommunication/ITS. Currently, the way of extracting the vehicle information differs by manufacture, model type, and bus type. A few standard organizations are developing related specifications that focus on the scope of their interest.

In addition, recognizing importance and urgency of 'Climate Change' issue, ITU should actively involved in the field of ITS, which can help to reduce carbon emissions, for instance by reducing congestion. It is anticipated that vehicle-centric services should be developed in the way of contributing to the mitigating 'Climate Change' supporting by global standards.

Vehicle Gateway is intended to provide and support telecommunications using the network environment within the car and to outside (vehicle to vehicle and vehicle to infrastructure), so the Vehicle Gateway has a significant role in the vehicle supporting the ubiquitous connectivity under the global heterogeneous environments. Therefore supporting global seamless ITS services/applications, global standards for Vehicle Gateway should be developed to allow all consumer devices working plug-and-play in all vehicles.

2. Study items

Study items to be considered include, but are not limited to:

- Definition and the scope of Vehicle Gateway
- Functions and service requirements of Vehicle Gateway Platform to support vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) telecommunications
- Functional architectures and mechanisms of Vehicle Gateway
- Use cases and scenarios working of Vehicle Gateway as a bridge between the cars(V2V) and between the car and infrastructure(V2I)
- Study enhancements required to provide energy savings and reducing the gas emission directly or indirectly including support of emergency and early warning services of traffic accidents

3. Tasks

Tasks include but are not limited to:

- Studies on the requirements in terms of services and functions to support V2V and V2I
- Studies on the functions of Vehicle Gateway and its reference model(s)
- Studies on the open interface between in-vehicle network and ICT devices
- Studies on the relevant necessary protocols to support vehicle oriented services/applications

4. Relationships

Recommendations:

- F, G, H, I, Q, T, V, X, Y series Recommendations under the responsibility of SG 16

Questions:

- All NGN and future network related Questions

Study Groups:

- ITU-T Study Groups: 4, 9, 11, 12, 13, 17, 19
- ITU-R Study Groups: 4, 5, 6
- ITU-D Study Groups: 2
- Focus Group on 'From/In/To Cars II' (ITU-T SG12)

Other bodies:

- ISO TC 22 SC 3 WG 1 Data Communication
- ISO TC204 WG17 Nomadic Devices
- IEEE 802, 802.11 (WiFi), 802.15.1 (Bluetooth)
- AUTOSAR WP11-1.1 Software Architecture
- OSGi VEG(Vehicle Expert Group)
- JSR298 Telematics API
- IrDA (Infrared Data Association)

Attachment 2
Draft Roadmap for development of Vehicle Gateway related standards

This roadmap in Table 1 shows overall plan for the development of standards related with Vehicle Gateway Platform to support telecommunication services/applications in terms of In-Vehicle and Out-to-Vehicle. All documents should be carefully taken consideration of impacts on ‘Climate Change’ and investigate mitigating impacts to.

Table 1 Proposed Roadmap to develop Vehicle based telecommunications

Draft	Title	Key Contents	Target Date
Supplement	Framework of Vehicle based telecommunications	<ul style="list-style-type: none"> • Technical Overview of telecommunications/ITS • General Configuration • Service Concepts and network Capabilities • Gap analysis and interactions with relevant other SGs especially in ITU-R and other SDOs for study 	End of 2008
F.VGP-REQ	Service and Functional Requirements of Vehicle Gateway Platforms	<ul style="list-style-type: none"> • Definition and Scope of Vehicle Gateway • Classification of Service Capabilities • Reference Model • Use Cases • General Requirements • Functional Requirements 	End of 2009
H.VGP-FAM	Functional Architecture model of Vehicle Gateway Platforms	<ul style="list-style-type: none"> • Functional Definition of Vehicle Gateway <ul style="list-style-type: none"> ○ Description of Vehicle Gateway Specific Functions • Functional Models • Functional Information Flows 	End of 2009
H.VG-OIF	Open interface between the Vehicle Gateway and ICT devices	<ul style="list-style-type: none"> • Requirements for Open Interface • Interface Protocol Architecture <ul style="list-style-type: none"> ○ Overall Protocol Structure ○ Definition of Interfaces • Protocol Stack for each interface 	Mid of 2010
H.VGP-PRT [note1]	Service capabilities and protocols to support Vehicle oriented services	<ul style="list-style-type: none"> • Definition and Description of Service Capabilities • Procedures and Signaling and Data Flows • Detailed Description of Protocol Layers • Description of Interlayer Procedures • etc. 	End of 2011

[note1] This document may be consisted of a set of different documents according to the layering models and required protocols. This needs for further study.

Attachment 3
Agenda for ad hoc session on Vehicle Gateway

1. Approval of Agenda
 2. Using Terminology 'ITS (Intelligent Transport System)': [Annex 6 to Document 5A/45-E, 4 March 2008](#) (ITU-R SG5, WP5A)
 3. Proposed Question Description: See [Revised Attachment of C-333](#)
 4. Proposed Roadmap: Annex to this agenda
 5. Collaborating Standard Bodies
 - 5.1 Within ITU
 - ITU-T Study Groups: 4, 9, 11, 12, 13, 17, 19
 - ITU-R Study Groups: 4, 5, 6
 - ITU-D Study Groups: 2
 - Focus Group on 'From/In/To Cars' (ITU-T SG12)
 - 5.2 Outside of ITU
 - ISO TC 22 SC 3 WG 1 Data Communication
 - ISO TC204 WG17 Nomadic Devices
 - AUTOSAR WP11-1.1 Software Architecture
 - OSGi VEG(Vehicle Expert Group)
 - JSR298 Telematics API
 6. Further issues
 - Propose as a new Question
 - Assignment of Rapporteur or Convenor
 - Set up correspondence group (or Question meeting) using e-mail reflector
 - Face-Face meeting: September 2008 (as part of SG16 Questions' meeting)
 7. Any Other Business
 8. Closing
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